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NATURE AND MIND: SOME NOTES ON PROFESSOR WARD'S GIFFORD LECTURES.

I.

THE various lecturers who have from time to time been appointed in the four Scottish universities on Lord Gifford's foundation have interpreted the obligation to treat of "Natural Theology" in very various fashions, and it is in the interests of the scientific and philosophical study of religion that this should be so. Mr. Ward, in the two volumes which contain his lectures, is occupied entirely with the negative task of criticising those theories of the universe that seem to him inconsistent with any natural theology whatever. "I take it for granted," he says in his preface, "that till an idealistic (*i. e.*, spiritualistic) view of the world can be sustained, any exposition of theism is but wasted labour." His work might thus be described as 'Prolegomena to Every Future Gifford Lecture.' Most modern idealists (*e. g.*, Berkeley or T. H. Green) have sought to refute materialism by showing that matter has no meaning except *for* mind. Mr. Ward gives comparatively but little space to this epistemological method of attack, and the precise relation of his own epistemology to that of the two writers I have named seems to me somewhat obscure. All his first volume, and incidentally many passages of the second, consist of an elaborate discussion of the mechanical theory and the theory of evolution, and half of the second volume is an examination of the theory of psycho-phys-

ical parallelism. Thus three-fourths of the treatise are a philosophical criticism of the fundamental concepts of modern physics, and biology, and have a special interest for the philosophical student as the work of a writer evidently at home in mathematical physics, and well known as one of our most original psychologists. Whether these sceptical doubts about the theories of modern science are the best strategical method of attacking materialism and agnosticism, may perhaps be doubted. The physicist and biologist may refuse to yield to an argument that seems to deny the validity of the methods on which they are working. The epistemological idealist, on the other hand, takes them in the rear and surrounds them, and finds the more philosophical students of nature (such as Huxley, for instance, who had studied his Descartes and Berkeley) useful allies instead of out-and-out opponents.

"The naturalism of to-day," Mr. Ward holds, "is the logical outcome of the natural theology of a century ago" (I, p. 48)—the natural theology that viewed nature as a machine set agoing by God as its first cause. A Laplace finds he can dispense with the hypothesis of a God thus placed outside the system with which his science is seeking to deal: and there remains, then, only the machine—this monster which the scientific Frankenstein has in reality himself created. (Mr. Ward makes the usual mistake of calling the monster "Frankenstein," II, p. 87.) When we come to examine the actual theories of modern physicists we find, however, that they have in truth demolished or evaporated the 'matter' of popular belief. They may say 'we know only phenomena,' but they are always talking of what are not phenomena, but a noumenal world which they have set up behind the world that appears to the senses, a world of conceptual entities which can never be perceived. The physicist, who hopes to avoid metaphysics, may begin by defining matter as "that which can be perceived by the senses," but he leaves us with atoms, or the vortices of a hypothetical ether, which cannot possibly be perceived by the senses. "Our phenomenal matter," as Mr. Ward puts it (I, p. 88), "is reduced to non-matter in motion"—a conception which he very well compares to the *materia prima* of Aristotle. Even

the ancient atomism of Democritus and Epicurus was of this conceptual character. Mr. Ward is in error in thinking that the Democritean atom "apart from its being *absolutely* hard, differs from sensible bodies only in respect of size and indivisibility" (I, p. 122). Democritus, as quoted by Sextus Empiricus, said that atoms could neither be seen nor tasted nor touched, and could only be known by "true knowledge" as distinct from the "obscure knowledge" of the senses. Democritus may, like Leibniz, have asserted a continuity between the two kinds of knowledge, but he seems generally to have put his world of realities and his world that appears to the senses, in as sharp an antithesis as can be found in the Platonic or the Kantian doctrine of noumena. His predecessor Leucippus, if Aristotle reports him rightly, seems to have held that the atoms were invisible simply from their smallness, but the more careful theory of Democritus denies to them absolutely any of the "secondary qualities of matter": how could we conceivably *see* an atom if it has no color?[1] Thus the first great system of conscious materialism asserted the absolute reality of nothing except the things that could be known only by reason, thus implicitly refuting its own derivation of thought from matter. Mr. Ward does not, however, rely exclusively on this self-refutation of materialism, and attacks directly the fundamental assumptions of modern physics. He thinks it unscientific to apply the principle of conservation of mass to the entire universe: "it involves the further assertion that the universe is a finite system" (I, p. 90). To a criticism of this very sort as intended to throw doubt on the validity of the principle, I have heard a mathematical physicist make a perfectly satisfactory answer: "Take any portion of the universe you like and you will

[1] If something may plausibly be said for Mr. Ward's opinion that the Democritean atom is "phenomenal," no defence can be given for his extraordinary assertion that Lucretius regarded the world as *started by Divine Power* and then left to itself (II, p. 278). Has Mr. Ward forgotten the vehement declaration:

> *"Nequaquam nobis divinitus esse creatam*
> *Naturam mundi: tanta stat praedita culpa"?*

"Lucretius" can surely not be a misprint. I assume that "*omnis corpus*" assigned to Leibniz (II, p. 156) is a printer's error. There are trivial misprints on II, p. 224 *note*, and p. 256 (in the quotation from Aristotle).

find the conservation of mass and the conservation of energy true of it." It is true for *any* finite part of the universe; and there is nothing inconsistent between asserting its universal truth and yet holding that a necessity of thought forbids us to conceive the universe as a whole as finite in space or time. Quantitative methods in science are only applicable on the assumption of the conservation of energy. In Kant's sense of the term, it is an *a priori* proposition, *i. e.*, it is not dependent on experience for its validity, but is presupposed logically in the science of mathematical physics: its proof is not any 'intuitionist' appeal to 'self-evidence' or immediacy, if these phases imply "got without any trouble" or "accepted by the common sense of mankind," but the 'transcendental' proof, that without it sciences would be impossible, which are possible, because they exist and enable us to predict and to control experience, and to correct alleged experiences to the contrary.

Mr. Ward thinks it absurd of Mr. Herbert Spencer to make the principle of the conservation of energy "deeper than demonstration," when fifty years ago physicists were unaware of its truth (I, p. 216). Mr. Spencer's own theory of the origin of the *a priori* element in knowledge (viz., that what is *a priori* to the individual was originated in the experience of the race) is indeed put in a difficulty by the fact that very few human beings have ever known of this principle or tested its truth in the laboratory. But the Kantian theory of the *a priori*, which is logical and not psychological, is unaffected by the late date of the recognition and formulation of the principle. Before the science of physics worked with the conception of the conservation of energy, it worked with the conception of the conservation of matter. "*Omnia mutantur, nil interit.*" Lotze suggests (in a passage quoted with approval by Mr. Ward, II, pp. 82, 83) that "the universal course of things may at every moment have innumerable beginnings whose origin lies outside of it." It is possible to *imagine* or *picture* absolute beginnings, but is it possible to *think* them and yet believe in the unity of the cosmos, or in any cosmos at all? In criticising Mr. Spencer's "evolutionary epic," as he felicitously terms it, Mr. Ward sees that it is poetical mythology,

and not philosophy, to talk of the whole universe as evolved and then dissolved. Is not this passage of Lotze's equally mythological? And it is self-contradictory as well, to speak of absolute *beginnings in* the *universal* course of things, the beginnings of which beginnings are outside the universal course of things. "Those who insist," says Mr. Ward (II, p. 76), "that the quantity of this energy [*i. e.*, the 'phenomenal' energy of the physicist as distinct from Mr. Spencer's unknowable force] *must* be constant seem to me in the same position as one who should maintain that the quantity of water in a vast lake must be constant merely because the surface was always level, though he could never reach its shores nor fathom its depth." If the surface was not merely level but always found to be at *the same level*, the inference would be a better one than the alternative hypothesis that the formation of the ground varied in such a manner as always precisely to balance the varying influx of water and the varying amount of evaporation. Of course, if people like to assume that the physical universe is worked by an ingenious juggler, for the deception of scientific men, they may take that hypothesis, just as it was once suggested that fossil shells had been placed among the mountains by the devil in order to shake the credibility of Scripture. Such hypotheses can neither be proved nor disproved. Of course, also the conservation of energy only implies that the universe is one coherent system: it does not require one to suppose an absolute space or an absolute standard of quantity. Any one who likes may *imagine* the sum of energy to be doubled or halved: it does not matter, provided the whole contracts or expands uniformly. In truth there is no absolute size or quantity. Such phrases are meaningless when we try to think them out. But no quantitative science is possible unless we assume our standard measures to retain the same ratio to the totality of measurable things. We may say that the quart pots of yesterday are the pint pots of to-day: it will not matter, if everything else has changed in the same ratio, so that mathematical principles will still apply. To make the exactest of sciences impossible seems a strange way of making rational theology probable. It is only the irrational theologian

that gains by this sort of scepticism. The existence of a pervading intelligence in the universe is rather proved by the exactness of the sciences of quantity than by a doubt as to their truth. There is a saying which, Plutarch tells us, was ascribed to Plato: "God always geometrizes."

Mr. Ward tells a pretty story of himself (II, p. 77): "When I was a child my mind was much exercised, because I could never find the beginning of a piece of string; all the string I could get hold of had had the beginning cut off. I was in a fair way to conclude that string had no beginning, but that every piece was cut off another piece, in turn cut off another, and so on forever. But one day, passing a ropewalk, there to my delight I saw string emerging from a bundle of tow that was not string at all." It was not string, indeed, but it was *tow*. If the child's experience had been the true parent of the man's philosophy he should have found perpetual bits of string emerging from the mouth of a conjurer, as often as the conjurer said: "*Sic volo.*" Then we should have had an illustration of Lotze's "innumerable beginnings."

In several places Mr. Ward speaks as if he recognized a distinction between epistemology and psychology, but I find it very difficult to understand where he draws the line between them. He quotes with approval Professor Stumpf's dictum: "That cannot be true in epistemology which is false in psychology" (II, p. 133). Suppose we admit this; there need be no contradiction if the points of view are very different. In discussing Kant's theory of space, Mr. Ward speaks as if the Kantian *a priori* meant priority in time. Kant's language is, indeed, often careless, he mixes up a great deal of psychology (and much of it very good and important psychology) with his logical analysis of knowledge, but he intends his 'priority' to be logical and not necessarily temporal. Thus at the beginning of the "Introduction" to the *Critique of Pure Reason*, he says explicitly that *a priori* knowledge is *not* knowledge which is antecedent to experience. Yet Mr. Ward supposes he is correcting Kant, when he writes: "What I wish to challenge is the notion that space is in any sense prior to or independent of the empirical objects that are said to occupy portions of it and to be all contained in it. It is certain that our

first experience [this can only mean temporal priority] is not of 'extension which is extension of nothing at all,' but of bodies that are extended" (II, p. 144). The second sentence appears to be given as the proof of the first, yet there is nothing in it to which Kant might not have assented consistently with his main doctrine that there is an element in our knowledge *not dependent upon experience for its validity, though not antecedent to experience in time.* So, again, when Mr. Ward refers to the accepted psychological theory that "one essential of spatial perception is voluntary movement" (II, p. 135), this is an *ignoratio elenchi* as applied to Kant's doctrine of space. The psychological history of our perception of space does not answer the question of the logical basis of geometry, whose absolute certainty Kant assumes. All science is certainly, as Mr. Ward rightly insists, conceptual and abstract, and, therefore, we cannot have a science of what is quite concrete, or of individual events or persons. We can have no science of all that is most interesting to us, as beings who feel pleasure and pain. In other words, there is a very large part of our experience in which the categories of quantity are of very little use; but that does not entitle us to question the truth of the sciences where they can be applied.

II.

In passing to the biological sciences, we pass to a region in which the quantitative methods of mathematics, and the convenient mechanical images of physics, become inadequate; but that is no argument against their complete validity throughout the whole universe, regarded simply in its aspect as extended in space and implying motion in space. An animal is much more than a machine, just as it is very much more than a more or less symmetrical solid figure. The categories of quantity and mechanism are not wrongly applied even to animals, unless it be maintained that they are the only categories applicable to animals in all their aspects, spatial and non-spatial. No scientific man as yet has been able to 'explain' the origin of life, *i. e.*, to describe how, as a matter of history, the inorganic becomes organic, in the same sort of way as that in which the chemist shows how what used to

be considered elements, water, air, etc., can be resolved into simpler substances and even reconstructed out of them. But must the argument for mind in the universe be rested on the gaps in scientific achievement? It seems a dangerous method of defending the spiritual world. The champions of 'revealed' theology in the past have in succession thought it necessary to oppose the advance of astronomy, geology, biology, anthropology, scientific history, and the scientific criticism of documents, and have always had to give way in the long run, and have then found out that rational theology at least had suffered no injury. It is very important, indeed, to criticise the unconscious metaphysics of the physicist or biologist, when he trespasses beyond the abstractions of his own special science, and dogmatizes about the universe in all its aspects; but is the criticism of the details of scientific theories a necessary part of the defence of idealism? Supposing that some future chemist should discover the missing link between the inorganic and the organic, and give the history of the origin of life in the same sense (and, of course, in the same sense only) as that in which the modern biologist recounts the marvels of embryology, would natural theology suffer any greater injury than those it has already survived? Even dogmatic theology has reconciled itself to the doctrines of Copernicus.

In dealing with biological evolution Mr. Ward ceases to be the critic of Mr. Herbert Spencer, and sides with him in defending the Lamarckian hypothesis of use-inheritance against the extreme Darwinians, who maintain the sole sufficiency of natural selection; and, like the late Mr. Romanes, Mr. Ward is anxious to claim the authority of Darwin on his side. Now Darwin's own position is clear enough. The title page of his great work has on it these words: *The Origin of Species by means of Natural Selection, or the Preservation of Favored Races in the Struggle for Life.* With characteristic absence of dogmatism Darwin was willing to allow that the older theory of use-inheritance, stripped of Lamarckian fancifulness, might come in as a coöperating factor, and he recognized sexual selection as another evolutionary factor, often interfering with the effects of natural selection. But Dr. Russel Wallace is perfectly justified in using the term "Dar-

winism" to mean specifically the theory announced on Darwin's title page, not caring, as he might well have done, had he not been as free as Darwin from personal ambition, to call the new theory by his own name. Mr. Ward speaks of the "imposing array of facts" which support the Lamarckian theory (I, p. 279). He does not mention any fact which indisputably proves the theory. So far as I can ascertain, many biologists, who began by holding the Lamarckian and Spencerian theory and instituted careful experiments in the expectation of confirming it, have come round to the conclusion that as yet it is 'not proven.' On the other hand, natural selection has the scientific advantage of being a *vera causa*. Even Mr. Ward seems to admit it as the explanation of leopard's spots, tiger's stripes, etc. The only question in dispute is: How much does it explain and how far does it absolutely require the help of other theories? Mr. Ward quotes Mr. Romanes's criticism of Professor Weismann's treatment of the question of the inheritance of speech (in *Darwin and after Darwin*, II, p. 336). "That the young of the only talking animal should be alone in presenting—and in unmistakably presenting—the instinct of articulation"—this Mr. Romanes regards as a clear proof of the transmission of acquired characteristics. And he thinks the manner in which this matter is treated by Professor Weismann an "illustration of the elusiveness of Weismann's theory." Now I think that Mr. Romanes and Mr. Ward after him have somewhat misunderstood the position of Professor Weismann on this matter. I remember him, on the one occasion on which I had the pleasure of meeting him, discussing this very question of speech, and what he then said, so far as I can recollect, was that the capability of speech, *i. e.*, of making varied articulate sounds, was undoubtedly inherited (it is inherited by parrots), and natural selection might account for that: it is a capability which has given the human animal a great advantage over other animals. But what is also quite certain is that, however long a child's ancestors have spoken any particular language, the child does not inherit the power of speaking that language, but has to learn by imitation, not only the rational use of words, which of course requires education, but the uttering of

sounds peculiar to the language, and has no advantage in learning it over a child of equal general quickness whose ancestors have never spoken that language at all, but who has heard it spoken around him from the time of birth. I have myself noticed a child of entirely Scotch descent, brought up in the English Midlands, unable to articulate the guttural *ch*, and using the prosthetic *r* exactly like the average Midland or Southern English child (even saying "a rapple" instead of "an apple"). Welsh descent will not ensure the capacity of pronouncing the peculiar Welsh *ll*; a childhood spent in Wales does ensure it, though there may be no Welsh descent. Further, it may be noticed that a baby's attempts at articulation may include all sorts of queer sounds that do not exist in the language of the parents at all—like the initial *mb*, which had become extinct in classical Greek. But the whole question of use-inheritance is best examined with reference to the lower animals and plants, where we can more easily exclude the ambiguous indications due to "social inheritance" or "tradition."

The Lamarckian theory attracts Mr. Ward because it is "teleological." By this he means that "it presupposes conscious, or at least sentient activity, directed to the satisfaction of needs, appetites or desires; psychical activity, in a word, as distinct from physical passivity and inertness. It implies an impulse to self-maintenance and betterment, which so far become ends" (I, p. 280). Thus Mr. Ward thinks that psychical activity or Lamarck's "slow willing of animals" or "subjective selection," as he has himself called it, is a factor alongside of natural selection. The existence of such a factor would certainly prove that there was some element of mind in the universe; but does it necessarily point to spiritual monism? And how much does this psychical activity imply? The Lamarckian theory is applicable to plants as well as to animals. Plants adapt themselves to new environments in the same sort of way that animals do. Mr. Ward, indeed, seems ready to accept Aristotle's consistent recognition of "soul" in plants. But the plant-soul can hardly be called "mind," in the sense of intelligence. Again "self-maintenance" or "self-conservation," which Mr. Ward puts as a teleological factor

alongside of "subjective selection," is just Spinoza's *conatus quo unaquaeque res in suo esse perseverare conatur*, and applies to the inorganic as well as to the organic; so that this teleological effort after self-maintenance seems linked with the inertia of physical masses, just as natural selection may be linked with the movement of bodies in the line of least resistance. As to an impulse toward "betterment," what is the proof of a voluntary striving for betterment, except the fact that some organisms have progressed? But we must remember that degeneration is a form of adaptation to environment as well as increasing complexity. Mr. Ward's teleological factors of evolution do not seem clearly to prove "mind" in the individual animal; or else they will prove "soul" in everything, and the distinction between living and dead matter disappears.

In the same lecture from which I have been quoting, Mr. Ward puts forward what seems a better way of treating the whole problem than the attempt to disclose gaps in nature, and to discover a psychical factor alongside of the mechanical and superadded to it. The principle of continuity, "that cardinal principle of all theories of evolution," may be used, as it is by Mr. Spencer, to make lower categories take the place of higher ones. "But it should not be forgotten that on the leveling-up method the principle of continuity is equally available. The scale of life is just as continuous from man to the *Protista* as it is from the *Protista* to man" (I, p. 283). On the principle of continuity need we fear, then, to regard, for certain purposes, the organic as a higher form of the mechanical? The idea of potentiality is double-edged. If the lowest form of matter has in it the promise and potency of the spiritual, we are justified in seeing the spiritual in the material. A philosophical and teleological theory of evolution is the counterpart of a scientific, *i. e.*, (in this case) an historical and mechanical theory of it. But Mr. Ward does not himself carry out this suggested application of the principle of continuity, and seems generally more ready to discover differences than identities in the scale of things.

Near the beginning of his second volume (II, p. 7) Mr. Ward quotes Henry More's fine saying: "*Nullus in microcosmo*

spiritus, nullus in macrocosmo Deus." No proof is given for the dictum, which Mr. Ward calls "assuredly true," and for which a great deal might be said philosophically, if we were discussing the old problem why God made the world. But it may be noticed that this saying could not have been accepted as strictly true by those theologians who believed that God made the world *in* time, for then there must have been a time when He was alone in the universe, and a time when He had made the firmament and the sun and the moon and the earth, and had not yet created any living thing; nor could Locke have accepted it, when he suggested that God might quite well have made matter able to think without interposing a soul between Himself and it. If we admit, however, the truth of the saying, it will still not logically follow from it, that, if there is a spirit in the microcosm, there is therefore a God in the macrocosm. Indeed, Mr. Ward's notion of animals progressing partly by their own voluntary efforts, and partly by the effect of "mechanical" natural selection, seems rather to fit in with a theory of many finite spirits in a world which, because apart from them it is mechanical, is supposed to be unspiritual, and the work of fate or chance. Mr. Ward does, indeed, at the close of his first volume, speak of the orderliness and meaning of the universe as due to "an indwelling, informing Life and Mind." But if the orderliness of the universe is a proof of indwelling mind, why is he so anxious to disparage the mechanical and the mathematically intelligible? Why, he asks (I, p. 108), do we depreciate machine-made articles? As a matter of fact we do not (if we are wise) depreciate them when we wish exactness and precision, but only when we want the expression of individuality and emotion in what is purely ornamental. The verses of the poet should not be mechanical. True, the sentiment and feeling should be his own; but his metre, *i. e.*, his poetry, as it exists in the physical universe, is none the worse for being accurate. If discords and irregularities are introduced, they must be introduced consciously (for in art "voluntary error is better than involuntary") as part of some wider and more complex harmony.

III.

This last illustration suggests the question of psycho-physical parallelism, to which Mr. Ward devotes much discussion. Many philosophical men of science have substituted this conception for that crude materialism which in ancient times resolved the soul into certain very fine atoms, and which in modern times has called thought a secretion of the brain; and many psychologists have looked upon this conception as the most convenient working hypothesis by which to express the relation between psychology and physiology. Mr. Ward rightly regards the conception as the outcome of Cartesian dualism. But the dualism of Descartes was assuredly not the invention of that philosopher, but rather the survival in his system of the popularized Platonic dualism of soul and body, which had become stiffened into an accepted dogma in the Christian consciousness. All our ordinary language now assumes the antithesis between the inner life of the soul and the outer life of the body. The plain man means of course by the external world the world outside his bodily self: and here the distinction of outer and inner is literally correct, the outer skin of each individual dividing all space into two parts. But then the plain man has been further taught to regard the soul as a thing inside his body, and so, when he thinks he is thinking more deeply, he puts his conscious experience as such 'inside' his soul, hardly aware that he is now using a metaphor, and then he opposes to that an external world, which he assumes to be the same for every mind, and from which the mind is supposed passively to receive impressions. It is thus that the dualism of popular philosophy is established; of this 'common sense' dualism Descartes accepted uncritically the initial antithesis between the mental and the external, giving it, however, a deeper and truer meaning by turning it into the distinction between thought and *extension*, and becoming aware of the problems to which it leads. The doctrine of psycho-physical parallelism, as formulated by Spinoza, is a serious attempt to solve the problem which popular philosophy conceals under its easy metaphors of images and impressions, but which Descartes

had clearly realized. *Ordo et connexio idearum idem est ac ordo et connexio rerum.* Spinoza, it should be observed, does not use the metaphor of parallelism: he asserts an *identity* between the physical and the psychical order. And this identity in duality is maintained by the more careful philosophical psychologists (*e. g.*, Höffding), who have employed Spinoza's conception as at least a working hypothesis. The psychical and the physical are two aspects or manifestations of one substance. Whether that substance is material or mental, or is unknown, is left over as a question for metaphysics. Mr. Ward seems to me hardly quite just to this suggestive idea of Spinoza's. He considers only somewhat crude expressions of it, *e. g.*, Clifford's illustration by reference to the relation between the spoken and the written sentence, or Huxley's comparison of consciousness to the sound of the bell or the shadow of the moving train. These illustrations are defective, because both sides are *in pari materia.* The sound, as waves in the atmosphere, is a form of energy, and the shadow of the moving train is in the physical world. On the other hand, the sound as heard, the shadow as seen, are in the psychical world; but so, also, are the bell as seen, the train as seen, the sentence as heard or seen. When consciousness is called an "epiphenomenon," this is really an inaccurate interpretation of metaphors like that of the shadow: it is a way, though a way philosophically indefensible, of escaping the absurdity of calling consciousness a physical product, a secretion or a vibration—an idea which would contradict the conservation of energy. The physical counterpart of a state of consciousness must be, on the principle of continuity, some "hypothetical brain mechanics," some jolt or jar among vibrating molecules. G. H. Lewes's adaptation from Aristotle of the illustration of the convex and concave aspects of the circumference of the circle is a better metaphor to express the relation of physical and mental. We might elaborate such an image a little and say that every one of us sees only the inner surface of a hollow sphere, but that surface we can construe into a moving picture made of spheres whose insides we can never see, but some or possibly all of which we conjecture to have minds inside them perceiving only inner sur-

faces such as we see; for we can only interpret things on the analogy of our own experience. The 'myth' or picture does not work out very well; it brings us back to the old antithesis of 'inner' and 'outer,' but in a way that perhaps helps to suggest, instead of to conceal, the difficulties involved in that antithesis. The best illustration of what Spinoza's doctrine, with some modification, may be made to signify is, however, an illustration used several times by Mr. Ward himself, but not in connection with psychophysical parallelism (see, *e. g.*, II, pp. 264, 273). Not the relation between the spoken sentence and the written sentence, but the relation between the sentence spoken or written, on the one side, and the meaning of that sentence, on the other side, may serve as an analogy of the relation between body and soul, or more generally between the material and the spiritual. Aristotle's definition of $\psi\upsilon\chi\acute{\eta}$ as the realization of the body belongs in the main to the same mode of thinking, as distinct from the notion of soul and body as separate substances. We might, as a matter of speculation, more on the lines of Leibniz than of Spinoza, apply the conception of psycho-physical parallelism in some such way as this:

Let us for convenience use Roman capitals for the physical series, and the corresponding (*i. e.*, fundamentally identical) Greek cursives for the psychical series. Then A may denote the (as yet almost entirely hypothetical) sphere of psychological physiology so far as it relates to the physical mechanism of the higher mental processes: these processes as known in consciousness will be α. Let B denote living organisms as the subject matter of the biological sciences, and C denote matter and motion (or shall we simply say 'energy'?) as the subject matter of physics. It will be observed that in descending the scale we come always to what is more abstract; and below C we might place separately D, the abstract relations of space and quantity, though C is already so abstract in comparison with B that we may be content with three main divisions of the universe in its physical aspect, spatial extension being the characteristic that belongs to the whole of it. Now, can we give any meaning to β and γ and any subsequent Greek letters as representing stages in the psychical scale? Applying the same principle of continuity which led us to assert the

reality (as an object of a conceivable science) of A, but applying this principle in the reverse order, we must recognize β as the region of 'obscure perception' and of feelings of attraction and aversion not yet risen into the clear consciousness of α. As the psychical side of C (motion) we find mere psychical activity or blind will. This is really an abstraction so far as our conscious experience goes, because we never experience pure volition without any thought (becoming conscious of it makes it 'thought'), any more than we ever experience pure thought without activity; but we may follow Schopenhauer and call this mere activity, regarded as psychical, 'will' *a potiori*, because it is the basis and lowest stage of what we know as conscious volition in α. 'Will,' in such a sense that we could apply it to the self-directed activities of animals and plants, is always found in some combination with feeling, or with what in the case of plants we may call such by courtesy. But this will seems only a higher development of what we may think of as the inner or psychical aspect of the inorganic mass or atom which has inertia or the *conatus* of self-maintenance: γ is the selfhood of mere abstract individuality. In our mental experience we have nothing more abstract than the vague tendency to activity: and so we cannot find intelligible psychical aspects of anything more abstract than motion. Mere space or extension is mere outwardness, and we can give it no 'inner' meaning. It is the characteristic of the whole physical universe, but not of the psychical. It is in quasi-Platonic language, the 'other' of thought. But what is most abstract is just for that reason what can be most completely known on the physical side, being least known on the psychical side. We can think the geometrical and the mechanical aspect of things clearly and distinctly. Our science is less able to grapple with the organic, and least with the physiological aspect of the psychical, where, if we are careful, we have to admit the inadequacy of our mechanical conceptions. On the other side, we can have vivid consciousness of our own thoughts and feelings, and of the ends we are striving for, but we can only conjecture the experience of other beings; and when we attempt to interpret the inner life, the actual 'experience' of plants or of what we call inanimate things, we have to

use anthropomorphic expressions which we admit to be inaccurate because too complex.

All this may seem fanciful. It can only be put very briefly and formally here. But it is an attempt to give a possible meaning to the old antithesis of physical and psychical, and to carry out a little further than is usually done the best working hypothesis both for the sciences of nature on the one side, and for psychology on the other. If what proves a good working hypothesis for all the special sciences can be fitted in with a sound epistemological theory, and with a consistent speculative metaphysics, then it has received as much verification as hypotheses on such ultimate matters admit of. The sciences of nature profess to work entirely with what takes place in space and time, to apply mathematical and mechanical conceptions as far as possible, and to allow no 'causal explanation' except in terms of what is material, *i. e.*, of the same kind with the spatial phenomena to be explained. To recur to my symbolic letters, A must be expressed in terms of B, B of C, and so on. Just as in ordinary language, in spite of Copernicus, we speak of sunrise and sunset, so we may continue to talk of B causing α and of α causing B (a state of the body causing a modification of consciousness and *vice versa*) while rejecting the old doctrine of interaction or *influxus physicus:* and such language is specially convenient because of our almost complete ignorance of A and of β, compared with our comparatively full knowledge of α and of B. But the ideal of scientific explanation is complete description of A, B, C in their simplest and most abstract terms. Mr. Ward objects that 'mechanical' explanations are mere hypothetical descriptions; but explanation in a science of nature only aims at such description, and purposely discards all teleology which falls outside the physical series. Teleology in a sense must come in when we are dealing with the organic: structures exist *for* functions. But this states a problem of natural science, and is not itself a solution. To take refuge in phrases like a "tendency to progression," or a *nisus formativus*, is simply to restate the problem as if it were the solution; 'occult qualities' are not scientific explanations. The only 'causes' with which the natural sciences can

'explain' are what Aristotle called "material causes," τὰ ἐξ ὧν, *i. e.*, the sum total of conditions that are equivalent to the phenomenon to be explained on its purely material (*i. e.*, spatial) aspect. It would save much ambiguity, if we could revive the Aristotelian distinction, or introduce some adaptation of his 'four causes.' So far as I can make out, Mr. Ward allows no meaning to the word 'cause' except that of 'efficient cause.' It is therefore inevitable that he should take all causation to imply activity of the kind that we only know directly in our own conscious striving after ends. This is precisely the view of Berkeley, to whom, curiously enough, Mr. Ward never refers in this connection (the name of Berkeley, though occurring in several places in the book, is not even thought worth mention in the Index). Berkeley, like Mr. Ward, resolves the substantiality of things into causality, and interprets all true causality as will, what are called causes and effects in scientific phrase being merely antecedent and consequent 'ideas' (*i. e.*, phenomena) which serve as signs of one another. Efficient causation, the ἀρχὴ κινήσεως, is in place when we are explaining some particular occurrence and wish to discover who or what is responsible for it. Who threw the stone that made the apple fall from the tree? Or was it what lawyers call "an act of God"? But science deals not with particular events (save as experiments or illustrations, or when we cannot get beyond the particular as in the purely 'historical' parts of geology) and consequently the difference between one antecedent condition and the others is only relative. The biologist as such is not concerned to explain why *this* flower has an abnormal number of petals, but to discover if possible the conditions of variation in general. On the other hand the ἀρχὴ κινήσεως is important in history (though the anecdotal historian is apt to overestimate its relative importance), and it is all important in judicial investigations, and the material causes are apt to be overlooked. The distinction between the individual and perceptual subject-matter of history on the one side and, on the other, the general and conceptual subject-matter of science is admirably put by Mr. Ward at the close of his second volume. But I think he errs in expecting from men of science a type of explanation which they do not (if they are wise) profess to give.

The Aristotelian formal cause is usually supposed, by scientific men who have read Mill's *Logic*, to be out of date. But the formal cause is exactly what we mean by a 'law of nature.' It is the universal or conceptual formula which is manifested in a number of particulars. And the very common habit of hypostatizing, 'Energy,' 'Gravitation,' 'Evolution,' etc., is only a recurrence to the mythological interpretation to which the Platonic doctrine of 'ideas' or universal 'forms' was exposed. The habit, again, of speaking of these abstractions with capital letters as efficient causes is the result of 'animism'; it is so difficult to eliminate anthropomorphic interpretations even in scientific thinking. Mr. Ward argues (II, p. 251) that this conception of 'laws of nature' is an implicit admission of efficient causes in nature. "If man had never made laws he could never know law, and if he were not a free agent he could neither make laws nor obey them." Now it may be quite true that the modern phrase 'law of nature' is a metaphor derived from the laws of the state, *e. g.*, in Cowley's too flattering reference to Bacon:

> "Whom a wise king and Nature chose
> Lord-Chancellor of both their laws." [1]

The phrase 'laws of nature' is apt to carry with it a misleading connotation of command, and obedience, and possible disobedience. But the original conception of civil laws was not that of commands made by man, but of immemorial custom. 'Law' was thought of as the fixed or unchanging, declared, but not made by the sovereign.[2] Doubtless the Stoic conception of the *Jus naturale* or *Lex naturæ* helped the adaptation of the term 'law' to express the abstract conceptions, or *formæ* (as Bacon calls them), or *formulæ*, by means of which the phenomena of nature become intelligible.

If we turn now to the psychical order, we find the proper sphere of final and of efficient causes. In an actual conscious experience we are aware of ourselves as striving for ends and as initiating events in such a sense that we are held responsible for them.

[1] And so Mr. Ward speaks strangely of the "inception" of a law of nature, meaning its formulation as a scientific hypothesis (II, p. 220).

[2] *Vide* Clark's *Practical Jurisprudence;* Maine's *Early History of Institutions.*

Here we are in the region of what is strictly individual and concrete. If psychology be the science that deals directly with what I have called α and hypothetically with β and γ, then we may accept Mr. Ward's view that "psychology never transcends the limits of the individual." I find it, however, rather difficult to understand the account given of the province of psychology in Mr. Ward's treatise, which has done so much to reform the conceptions of English psychology, but which still remains buried in the inconvenient columns of the *Encyclopædia Britannica*. Psychology hovers bat-like between the sciences which deal conceptually with some more or less abstract aspect of the universe and some ideal philosophy of mind which should deal with what is perfectly concrete and individual and yet take up into itself all the scattered lights of the various abstract and partial sciences. What I call α, as it really exists, *i. e.*, as the actual conscious experience of some individual *ego*, contains in it all A, B, C, etc., so far as they are known to that *ego*; they are abstractions except so far as they exist for some mind, and of course they are also abstractions as apart from the totality or organic unity of α. But a strict account of α so far as possible would be a complete autobiography, not a 'spiritual autobiography' or 'confession' only (for such accounts of the 'inner life' as a rule imply abstraction from a great part of experience). A *science* dealing with α must generalize and empty it till it becomes the possible common or average experience of *any* human *ego*, and that too only in its aspect as existing *for* consciousness, or for sub-conscious feeling (if such an expression may be tolerated), in abstraction from its contents. And as such a science psychology is usually treated. The psychologist, in his endeavour to make his pursuit like the sciences of nature, is obliged, like those occupied with these other sciences, to deal with abstractions: and it seems to me only a matter of degree (though that does not make it unimportant) whether we start with the extreme abstraction of 'sensations' or 'simple ideas' (in Locke's sense), or with what Kant calls the "manifold of sense" or whether, like Mr. Ward, we start with the "presentation continuum" as it may be supposed to exist in the average normal mind and considered simply

in its presentative aspect. In considering the contents of consciousness purely as contents of consciousness we are abstracting from the actual or real experience of any individual; and in treating of the average or normal individual mind we have abstracted from the real individual. [1]

But if psychology be a science we must, as in the other sciences, look for material and formal causes. Efficient and final causes belong more properly to practical life, and to philosophy. In psychology as a science, even in any psychological dissection of one's self, the self must be treated as an object, a quasi-thing, analyzable into various factors. The modifications of consciousness must be treated as events that happen and have to be explained by reference to antecedent events. We abstract from the individuality of the *ego* and look for the antecedent conditions of ideas, feelings, and volitions as the 'causes' of them (*i. e.*, material causes) in precisely the same sense in which we find causes in nature: and we seek to formulate psychological 'laws,' in precisely the same sense as in nature, *i. e.*, they are statements of what *under certain conditions* must necessarily happen. All laws of nature are true universal propositions, abstract, and best formulated as hypotheticals. At the psychological point of view there is no escape from necessity. In spite of the clear statements of Huxley to which he refers, Mr. Ward appears to confuse necessity in this logical sense (*If* S, then P) with fate. Fate implies the very opposite of such logical necessity of connexion. The oracle utters a strictly categorical proposition, *e. g.*, "whatever Œdipus does, he will murder

[1] Mr. Ward distinguishes (1) life as it is for the living individual (the one real experience for each, viz., his own experience) from (2) life as it is for the so-called biologist, the interaction of organism and environment, "where both organism and environment are objects for a distinct observer," by calling (1) *βίος* and (2) *ζωή* (II, p. 111); and on p. 158 he accordingly speaks of "subjective or biotic time" as distinct from "trans-subjective or common time" or the still more abstract "absolute time." The distinction would be convenient, but these Greek words are ill-adapted to express it. *Βίος* means a man's career or his livelihood (as we speak of a clergyman's 'living'). 'Biography' is quite correctly formed. 'Biology' is indefensible, except on the ground that zoölogy was already appropriated and that *βίος* is sometimes used = *ζωή*. But Mr. Ward's use seems quite without warrant; a man's *βίος* may be an object for distinct observers. Aristotle's distinction between *Ψυχή* and *ζωή* comes nearer to what Mr. Ward requires.

his father." The scientific psychological necessitarian only says: "*If* you go on in that way, you will end by murdering your father," and that might prove a very useful warning, if the youth's character were not too diseased a plant to benefit by healthy air. It is only because of this causal (*i. e.*, *material* causal) connexion between feelings and volitions that laws with penalties attached to them are of any use—they supply motives to those who need them. Mr. Ward seems to regard "unpredictable behaviour" as evidence of freedom in the sense of non-conformity to scientific law (II, p. 70). "Here I pick up a stone and call it dead: I toss it from my hand and can describe the path it will take. There I pick up a bird: I can toss that from my hand too, but cannot foretell its course through the air" (II, p. 85). If you are a skillful stone-thrower you may predict the path the stone will take, more or less, because the free air is for the stone a very simple environment, but for the bird, who can see trees and insects and kindred birds and human foes, it is a very complex environment. Throw an irregularly shaped stone down a rocky mountain side, and you may find it more difficult to predict its path than to predict the path of a lark let out of a cage, or of a staunch partisan when a division is taken in Parliament. It is not the difficulty of predicting man's conduct which is the basis of his responsibility, but the fact of consciousness, which is apt to be ignored in the purely materialistic explanations of the sciences of nature, and the possibility of ideas and ideal ends entering among the motives of conduct. As events, ideas have of course their history in time; but as ends they are more than events. The 'unpredictable behaviour' of a bird or of a man is a proof of complexity; it is in itself no proof of freedom, in any sense in which that differentiates man from lower beings. It is no necessary counterpart of legal or moral responsibility. As Mr. Bradley has so ingeniously put it, we do not make man "accountable" by making him "unaccountable." The freedom which is the prerequisite of responsibility is, as Aristotle and Thomas Aquinas hold, the absence of *external* compulsion, the origination of actions in a man's own purposes, *i. e.*, in ideas of ends supplemented by the desire to attain them. For the purposes of his-

torical or biographical explanation we often think and speak of motives as if they were causes external to the person who acts, and much the same for all sorts of persons, and we are apt to forget that they are only real in their inner and strictly individual aspect. We talk, for instance, of a man being 'impelled' by ambition; and then it is only too easy to picture the impelling force as if it were something external and separate from the self. The determinism which is inconsistent with moral responsibility is a determinism that has fallen a victim to convenient mechanical imagery. In his article on "Psychology" Mr. Ward says explicitly, that the presumption is against the indeterminist position, and towards the close of the work before us (II, p. 281) he brings in the higher ethical conception of freedom. Real freedom consists in conformity to what ought to be. "For God, whom we conceive as essentially perfect, this conformity is complete; for us it remains an ideal." But just before he has spoken of "contingency" coming in history, "into the very heart of things" (p. 280), though he adds "the contingency is not that of chance, but that of freedom." This very scholastic distinction between two kinds of contingency is not further explained. The assertion of contingency "in the very heart of things" seems to imply a real absolute contingency, and not merely a name for our ignorance where the causes are very complex: and such an assertion comes strangely on a page which is headed "Spiritualistic Monism." Contingency and freedom of will, in a sense inconsistent with the logical necessity of those laws of nature which are Plato's "ideas" or, as Kepler called them, the "thoughts of God," prepare us to expect a system of pluralism, like that which Professor W. James seems to favour. The clever work of Mr. Lutoslawski, called *Seelenmacht*, is a logical working out of the atheistical and anarchical tendencies of the dogmas of *absolute* individual immortality, and of free will in the sense of 'every man a first cause.' It is an interpretation of the universe in the light of the Polish *liberum veto*. A God who is only one among other first causes and independent substances is at the most *primus inter pares;* and the universe in which these substances exist is either a universe of chance (as in Democritean atomism), or is pervaded by some spir-

itual principle supreme over this limited Deity. But Mr. Ward does not hint at any such pluralist conclusions. Whereas, under the guidance of Lotze, to whom he refers affectionately as his old teacher, Mr. Ward admitted the possibility of innumerable beginnings in the universe, under the safer guidance of a greater than Lotze, on the last page but one he deprives contingency of its absolute reality. He quotes the passage in which Leibniz says "Just as surd ratios . . . lead to an interminable series, so contingent truths involve an analysis that is infinite, and possible to God alone." The contingent, after all, then, is but a name for our ignorance and not for an irrational factor in the universe; and so at the very last we reach monism, but surely at some sacrifice of consistency.

"Either the universe," says Mr. Ward, "is mechanical or it is teleological; it is not likely to be a mixture of the two" (II, p. 63). May not the universe be both at once, through and through mechanical when regarded in its material or spatial aspect, teleological when regarded in its spiritual aspect, when that aspect is not being treated abstractly for the purposes of a quasi-natural science of psychology, but as the *meaning* of the whole process, a meaning such as we have in our consciousness of the ends and significance of some part of our own activities of thought and deed? If epistemology shows us that nothing can ever be known to us as having any actual existence save as an object for thought, it then becomes a reasonable philosophical faith, though it goes beyond the limits of possible knowledge, to suppose that the ultimate reality of all things animate and inanimate is their meaning for the one mind which *is* the universe in its inner aspect. This conclusion, though drawn from some of the premises that Mr. Ward questions, is not, I think, very different from his own: it may be called a spiritualistic monism, but it is not without a dualist and not without an agnostic element.

IV.

The fourth part of Mr. Ward's book, entitled "The Refutation of Dualism," is the portion of the work which seems to me most difficult to discuss briefly. I have already made a good many

references to it incidentally, but I do not feel at all sure that, after more than one reading, I have understood it correctly. I should describe it roughly as a translation of Kant's theory of knowledge from a logical analysis into an historical account of concrete individual experience and of common or "trans-subjective" experience (*i. e.*, the 'experience' of ordinary language, of common sense, and of the sciences of nature)—the dualist tendencies of Kant being corrected by a clearer recognition of the abstractness of either the subjective or the objective elements of experience when taken by themselves. In this last matter Mr. Ward rightly acknowledges the great debt of philosophy to Ferrier. As to what I have ventured to call the 'translation' of Kant, this produces a sounder psychology of cognition than the old empirical psychologists ever attained, but it seems to me (as I have already indicated) to leave untouched Kant's main problem about certainty in knowledge; for that problem is logical and not psychological.

I do not clearly see how Mr. Ward gets over the new dualism which he substitutes for the old—the dualism between (1) "experience, the living experience, of a given individual, filled with concrete events and shaped from first to last by the paramount end of self-conservation and self-realization;" and (2) "Experience with a capital E, the common empirical knowledge of the race, the result entirely of intersubjective intercourse, systematized and formulated by means of abstract conceptions" (II, pp. 152, 153). The latter of these he calls an "extension" of the former; but he also speaks of it as conceptual and abstracted from the former, *e. g.*, conceptual space is said to be derived by abstraction from the concrete experience of activity. Now can the abstract be regarded as an "extension" of the concrete? And is any experience, such as grown-up human beings have, possible at all without a conceptual element in its perceptions, however dimly apprehended as conceptual? The truth is there is no such thing as wholly individual *experience*, beyond mere uninterpreted feeling and blind willing. It is human society ("trans-subjective intercourse"), with its accumulated stock of concepts, that makes our experience a more or less organic sys-

tem. The psychologists with their individualistic standpoint are, I think, responsible for much more confusion than even Mr. Ward admits. It takes more than one man to know anything, or to have an ideal end for volition.

Mr. Ward, indeed, considers he has refuted dualism; but I fail to see how he has got over the gap he himself has made between "living experience" and conceptual experience. He cites with approval but with an interpolated qualification a passage from Mr. E. Caird's *Kant:* "To say that we know nothing purely *a priori*, but only gradually come to know the world as it reveals itself to us, is another way of describing the same fact, which is expressed when we say that our conscious life is the realization in us [the gradual, progressive realization—I take it] of a perfect intelligence." Mr. Ward continues: "We may conclude then that the subject of universal experience is one and continuous with the subject of individual experience" (II, p. 196). How much is implied in the words "one and continuous"? And may we identify Mr. Ward's "subject of universal experience" with a "perfect intelligence," or is the "subject of universal experience" only Kant's very abstract *Bewusstsein überhaupt?* How may it be compared with the *intellectus agens* of Aristotle and Averroes? How with Green's "Eternal Self-consciousness"? To these questions Mr. Ward has given no easily deciphered answer. He has refuted the 'common sense' dualism of mind and matter; but I think the pluralist is more likely to accept his arguments than the monist, and pluralism has not (except in one quotation from Leibniz) been excluded. If the objects of scientific thought are merely abstractions derived from individual experience, and liable to all the uncertainty of their source, must not the subject of universal experience be also a mere abstraction from the real concrete individual subjects? "Materialism abandoned and dualism found untenable," Mr. Ward seems too rashly to have assumed that *on his premises* "a spiritualistic monism remains the one stable position." As in Lotze and in Leibniz, there seems a wavering between monism and pluralism, and pluralism, without being named, seems on the whole the easier conclusion from Mr. Ward's arguments.

"Thought gives us only science not existence." "Reality (in experience) is richer than thought." These are Mr. Ward's recurring protests. But if reality be richer than *all* thought, how can we escape dualism, and how reach a spiritualistic monism? In almost the last words of his lectures Mr. Ward seems to me to withdraw his disparagement of thought and of "that necessity which is the boast of science." "These necessary truths," he says, "we have seen are, as Leibniz rightly called them, truths of *reason.* They originate in the subject of experience, not in the object, If the objects conform to them, then all experience is rational: *our reason is confronted and determined by universal reason.* Such is the world of spiritualistic monism, and to this world, as I have tried to show, Naturalism and Agnosticism eventually lead us in spite of themselves." The position of idealism could not be put better than in the words I have italicized; but I cannot see how Mr. Ward's arguments lead to this result.

D. G. RITCHIE.

THE ASSOCIATIONAL CONCEPTION OF EXPERIENCE.

THE theory of a philosophical school is a matter of development. It is not determined by the tenets of any philosopher in particular, or by the average belief of the school, but by the direction in which the standpoint represented by the school tends on the whole to develop. It is what the school is trying to express rather than what it actually succeeds in uttering. It may, therefore, be more truly represented by the latest disciple than by the founder himself. But the theory of a philosophical school is also determined by that of the opposite school. Its development takes place not alone, but always coördinately with that of its antithesis. The interaction between the two schools resembles that between two contestants in a game of chess. Each is developing his own game, but at the same time modifying it to meet the moves of his antagonist. Thus it happens that the associational school has been successively opposed to the theory of innate ideas, to the theory of *a priori* forms of thought, and now to the theory of apperception. These three theories represent in themselves a consistent line of development. The latest of them, the theory of apperception, under which I include not merely the Wundtian formulation, but the general tendency represented by James, and most distinctively by Stout, is the outcome of the recently discovered factor of 'attention.' It seems to me that this move of the apperceptionists has not yet been fully met by the associational writers; and that the bearing of the factor of attention upon the formulation of associational theory has still to be satisfactorily emphasized. The attempt to do this will constitute my excuse for the present paper. I shall try to show (1) that the theory of association is a purely physiological theory (which perhaps is not extensively disputed), but more particularly (2) that it can no longer be called the 'experience theory' in any but a peculiar and restricted use of the term 'experience.'

It will be clearer, though more tedious, to begin with first princi-

ples. The problem which the associational theory aims to solve, has probably never been better or more compactly expressed than in Kant's question: How are *a priori* judgments possible? How can an astronomer correctly predict the date of an eclipse? How does he come to know anything more than the particular details of his past experience? In such a case the plain man is likely to answer: 'By the exercise of his reason.' This is substantially the answer of the apperceptionists (using this term to include all the opponents of associationism), who have accounted for the possibility of *a priori* judgments by reference to innate ideas, to *a priori* forms of thought, and now to subjective mental activity. The associationist refers it always to experience. Elements that have coexisted tend to cohere (Bradley). Relations once set up tend to persist (Titchener). Associationists differ among themselves as to the nature of those relations, and hence as to the laws governing the formation of mental compounds, also as to the definition of the elements. It seems safe to assert, however, that the law or laws of association, however described, are universally intended to represent the tendencies inherent in the elements themselves, without reference to any additional activity on the part of the minds in which they are contained, these minds being regarded merely as compounds formed by the action of the laws inherent in the elements.[1] What a particular element of experience will in a given case call up, is, of course, conditioned by contact with the compounds already formed, that is, with the mental organization due to the former experience of the individual and his ancestors, just as the motions of satellites are conditioned by the presence of the planets; but, just as comets and satellites are both formed of similar elements, governed by the same law, so are hereditary mental structure and acquired experience governed by the one law controlling the action of mental elements. The laws of association stand in the same relation to the elements of experience as the laws of physics to its atoms, or the laws of chemistry to its elements. The result depends

[1] Titchener, if he is to be called an associationist, would probably not be represented by this statement, but he is certainly opposed to the conception of a mental activity operating upon the elements *ab extra*.

wholly upon the original relation of the data. The relations in experience are repeated by the relations in thought.

The fundamental assumption, then, of all associational theory is the conception of a fixed order of experience. This is the ultimate and indisputable fact upon which the formulation of the theory is based. Its whole meaning rests, therefore, upon the interpretation to be given to the term 'experience.' What modification does this term undergo in the light of recent psychological development? This is the question that will occupy us here. We shall approach the question through a comparison of the associational and apperceptional theories as applied to the conceptions of space and cause.

Let us confine our attention, in the examination of the space-conception, to the question of the third dimension, and assuming that no explanation is required as to why things are seen outside of each other, that is, side by side, let us ask how one comes to infer a front and back from data that appear merely side by side. The associationist explains the third dimension by reference to concomitant variations between the data. For example, as an object recedes it (1) grows smaller, and (2) becomes less distinct in outline and color. This is accompanied by (3) greater accommodation of the lens, and (4) less convergence. These are merely some of the more important optical elements, and to them must be added (5) the extent and direction of movement necessary (6) to touch the receding object. Now, according to the associationist, a given complex of optical conditions has been observed to accompany a given tactile-motor complex. A specific value of the one corresponds to a specific value of the other. The third dimension is due, then, to a practical infinitude of observed correspondences between the two scales.

With regard to the cause-conception, the associationist undertakes to explain how we derive the conception of invariable and necessary succession from mere succession, a *propter hoc* from a mere *post hoc*. The general answer is simple: the law of cause copies the relations observed in experience. Iron sinks, wood floats, fire burns, etc. The frequency and the invariability of these observed successions have produced the conception of

invariable and necessary relations. But, of course, all causal sequences are not of this invariable and obvious kind. The cause sometimes antedates the effect by a long period, as in the case of seed and plant. Nor are all invariable sequences directly causal, since, *e. g.*, the lightning is not ordinarily regarded as the cause of the thunder; and we tend to regard certain sequences as essentially causal while rejecting others as irrelevant, *e. g.*, the succcssion of colors in the ripening of fruit. If the striking of the clock is followed by a noise on the street, and this in turn by the sudden appearance of bright sunlight, the events though successive are not related causally. How then do we come to differentiate the distinctly causal sequence? The associationist refers still to the invariability observed in experience. But it is the invariability observed in a broader view. A city-bred child might readily believe that the florist makes the flowers he sells, but wider experience shows him that flowers invariably come from seeds planted in the ground. Greater breadth of experience tends therefore to bring out for each sense-impression its appro-riate and invariable antecedent and consequent; and the cumulative effect of experience as a whole is to bring about the habit of thought which expresses itself in the belief in the necessity of the causal sequence.

So much for a statement of the associational position. Can we now discover in experience the fixed order which the theory demands? Recurring first to the space-elements, if we limit our enumeration of elements to those consistent with a space-order, it is of course obvious, because tautologous, that the space-order merely repeats the order of experience. But there are other conditions to be taken into account, among which the following are prominent examples. (1) The space of experience is not a broad expanse of clear vision, since only those points are clearly seen for which the eye is directly accommodated. (2) Nor are the several colors seen with equal distinctness in all parts of the field, since the peripheral portions of the retina are relatively insensible to differences of hue. (3) Nor do all the hues from approximately the same point in a plane appear with equal distinctness, since the different hues are differently refracted by the media of the eye.

(4) Nor do I, after removing my eyes from an object, cease to see it, since the image still exists in complementary colors. (5) Nor does the blind-spot admit of experience of completely filled space. (6) And, finally, I may mention the numerous small objects within the eye whose shadows, cast upon the retina, appear when one looks at a clear sky. This list might be extended. If we add these elements to those commonly included in space-experience, the last semblance of order is destroyed. The space-order is now like the angel which Michael Angelo saw in the block of marble. If not isolated from contiguous elements, it does not exist. *There is no order in space-experience except as we ignore the disorderly elements.*

There may be some objection to including the additions made here to the space-elements under the head of 'experience.' It may be pointed out that they form no part of the experience of the ordinary man, and first appear only after some training in experimental psychology or optics. In this respect, however, they do not differ from the elements of space-experience commonly recognized. Bain[1] tells us that we observe the object to grow smaller as it recedes, that we notice the correspondence in the images of the two eyes as well as the fact and direction of convergence. But surely no one whose mind is still unbiased by the study of physiological optics ever, under ordinary circumstances, sees a man grow smaller as he walks away. The sides of the streets do not ordinarily converge in the distance. Nor are we ordinarily aware of the difference of the images in the two eyes. We may be to some extent conscious of the movements of the eyes, but certainly not with sufficient accuracy to use them for purposes of measurement; for it is supposed to be the absence of such knowledge which produces the after-images of motion. Any of these elements may, however, be perceived under unusual conditions. Men may look like pygmies when seen from a high tower, parallel lines converge when we watch the tracks from the rear of a moving train. But so incapable is the plain man under ordinary conditions of determining the size of the visual angle, that to represent it on paper, that is, to draw the object in perspective,

[1] *Senses and Intellect*, p. 368.

he needs a course of special training. The orderly and disorderly elements of space-experience are therefore alike; neither kind is ordinarily a part of experience, but both will appear under proper conditions of training and practice.

A similar argument applies to the conception of cause. Upon closer inspection of experience we do not find the invariable sequences upon which the associationist's argument rests. Take, for example, the law of falling bodies. According to this law a body, free to fall, falls at a fixed rate of acceleration in a line perpendicular to the ground. But, to begin with, not all bodies fall that are free to fall. Nor when they do fall do they necessarily or even generally fall in a line perpendicular to the ground. This depends upon the nature of the ground, the force of the wind, and a number of other circumstances. As for the rate of fall, apart from the variations occurring at different parts of the earth, it varies with the density of the body, and of the medium, and, again, with the form of the body, and the distribution of weight in the parts. Now, since bodies that fall in nature are of all varieties of forms and densities, and fall under every variety of conditions, the facts observed are far from showing any uniformity of behavior. What we mean then by the law of falling bodies is, not that they actually do fall in the direction and at the rate indicated, but that they *tend* thus to fall, that is, that they obey the law if nothing interferes. The causal order is therefore, like the space-order, *invariable only when we cut out the variable factors.*

The objection will be made that the approximate invariability in experience of the action of falling bodies can be easily shown by simple laboratory experiments. And this brings to light a conception that often passes for that of 'experience.' When a plain man declares that the presence of law in nature is a fact of experience, what he usually has in mind is not nature as such, but nature modified by the work of man. He thinks perhaps of an electric bell and of the invariable ring after the button is pressed; or of a steam engine and of the relative accuracy with which one can compute the amount of coal necessary for a given amount of steam-power. Such phenomena, however, are no longer pure

experience, but experience modified by human thought, that is, by the factor which the experience-theory sets out to explain. The action of the electric bell is indeed relatively invariable, but only because, by the use of copper wire, carefully insulated, of cells containing the proper elements separated and insulated from surrounding objects by glass, of carefully polished connections, etc., we have isolated all the factors which would interfere with the invariable result that we aim to produce. And so, too, of the steam engine; every part is carefully constructed to get all the power possible out of the coal burned. This is true, again, of the laboratory experiment, *e. g.*, of falling bodies. Experience gives us invariable results because we have carefully excluded the variable factors. The falling of a steel ball in the laboratory is very different from, say, the falling of a leaf. The latter may be caught up by the wind and carried out of our sight. Impartial observation of nature furnishes us with few invariable sequences. The alternation of heat and cold, of fair and stormy weather, the peculiarities of climate, and the distribution of fauna and flora, cannot be determined with certainty from previously observed conditions.

The further objection may be made that the more scientific and accurate expression of the causal principle does not require specific facts always to be followed by certain others, but merely that each fact maintain a constant value in the system of which it forms a part, so that any change in the element in question shall be accompanied by a corresponding change in the rest of the system as a whole. This is expressed by the physicist in the law of the conservation of energy. To fix its meaning for ourselves, let us suppose that the speed of a railway train varies only with the power of the locomotive and the weight of the train. The three elements, speed, power, and weight, constitute a system in which the parts are so balanced that a change in one involves a change in the sum—or product—of the other two. Each of the elements may change, while one, but not both, of the others remain the same. We have here then a fixed system of relations without, however, any specific sequences of facts. Now, according to the association-theory, the conception of a balanced sys-

tem, or of an invariable quantity of energy, is the result of experience, which never shows a change in one factor of a system without a corresponding change in the rest of the system as a whole. But, again, the claim appears invalid upon closer inspection. It is obviously impossible to derive the conservation-law from the mere observation of nature. If it is anywhere a fact of experience it must be in the laboratory where the system within which the energy is to remain constant can be relatively isolated. But no system of things can be completely isolated. The best bit of physical apparatus ever constructed will not be free from disturbances arising from external conditions. The example of the railway train just given is an abstraction from actual conditions. The speed of the actual train varies not merely with the conditions given, but with grade, direction and force of wind, temperature, atmospheric pressure, and countless other details. If we are fully to account for its behavior we must consult the actions of the most distant planet. The system within which the quantity of energy remains the same, includes, therefore, nothing short of the universe as a whole. But this is what the law of conservation really means—not that the quantity of energy remains the same in any relatively isolated system of phenomena, like that constituted by the steam engine, but that it remains constant in the universe as a whole. And, in this case, it obviously cannot be a formulation of observed experience. The quantity of energy is never *observed* to remain constant. There is always some discrepancy between antecedent and consequent; and constancy cannot be affirmed of anything in experience *except as we construct sufficient hypothetical experience to account for the discrepancy.*

This brings us to a statement of the apperception-theory. This theory declares: (1) that knowledge begins with a tendency to view the world as a harmonious system, and (2) that it is the operation of this tendency which brings out the differences called 'sensation-elements.'

(1) The apperceptionist reverses the associational order of things. For the associationist the simple mental fact, that which furnishes the clew to the analysis of mental life, is the chance

conjunction of two otherwise unrelated elements, and nothing is more complex, or more likely to mislead, than an act of deliberate reasoning. It is this process, however, which the apperceptionist regards as simple and typical. We may, therefore, conveniently approach our statement of the theory with the examination of a case of reasoning. I quote the following from Jevons:[1]

"Newton, having passed a ray of sunlight through a glass prism found that it was spread out into a series of colours resembling those of a rainbow. He adopted the theory that white light was actually composed of a mixture of different coloured lights, which became separated in passing through a prism. He saw that if this were true, and he were to pass an isolated ray of the spectrum, for instance, the yellow ray, through the second prism, it ought not to be again broken up into different colours, but should remain yellow whatever was afterwards done with it. On trial he found this to be the case, and afterwards devised a succession of similar confirmatory experiments which verified his theory beyond all possible doubt."

This is offered by Jevons as an illustration of his thesis that reasoning begins with a survey of the facts, though it afterwards involves the use of hypothesis. Jevons implies that Newton adopted the theory of dispersion *because* he had first observed the prismatic colors. But what led Newton first to pass the light through the prism, or why did he attach any importance to the display of colors? More generally, why was so simple a fact discovered so late in the history of the race? This might be asked about every scientific discovery, for every law is after all simple when once fully understood. Evidently the difficulty is not with the immediate facts. Newton was not the first to notice the fact of the prismatic colors. Nature herself offers numerous cases from which the law of dispersion might be easily derived. Descartes, for one, had already observed the facts and nearly reached the correct explanation; but, according to Whewell, he was misled by a false hypothesis. And herein lies the point of the apperceptional theory. Knowledge depends not merely upon the facts presented, but upon the point of view from which they are ob-

[1] *Lessons in Logic*, p. 259.

served. The reception of the facts is itself determined by the point of view. If Newton took the trouble to procure a prism, or even negligently to observe the facts, it was because he had already formed a hypothesis of some sort which he wished to verify. This was clearly the case in the second experiment, where he passed the yellow ray through a second prism; for here he had the definite expectation that the light would not again be broken up into different colors. And certainly he had an end in view when "he devised a succession of similar experiments." Now, according to the apperception-theory, what was true of the later experiments was true of the first. Reasoning begins with a theory—not necessarily with an elaborated theory, but, at least with the expectation of discovering some things rather than others. The theory becomes then a trial-hypothesis, or a question put to experience; and experience furnishes the facts because we have first asked the question.

From reasoning to sense-perception is a passage from a relatively experimental to a relatively established hypothesis. The distinction is purely relative; and this corresponds to the common observation that what is reached by one person through a process of reasoning is with another a matter of immediate perception. When Newton judged that white light was decomposed by the prism, his judgment lacked complete conviction; for he made further experiments by way of confirmation. What he meant was: 'If the coloured rays are elements of white light, any one of them may be passed through another prism without being decomposed.' And if, by way of supposition, the yellow rays had been similarly decomposed, he would doubtless have been puzzled, but not seriously alarmed. This is quite different from the attitude of the person who says: 'I see my keys upon the table.' He is expressing not a mere hypothesis regarding the connection of seeing and grasping, but a firm conviction—a conviction so firm that, if he should put out his hand and touch nothing at the spot where he sees the keys, the shock might even result in serious mental disorder. Now, according to the apperception-theory, there are some hypotheses which are still on trial, and others that have become settled points of view in the race.

The space and cause conceptions are among the latter. They constitute for the individual an *a priori* standpoint from which the process of sense-perception takes place. They are presupposed not merely in the deliberative reasoning of mature persons, but to some degree in the earliest mental activity of the infant.

The principle of apperception may be summed up in an expression of Professor James (though I am not sure how far he would care to be called an 'apperceptionist') that it is the fashion of the mind "to unify all data which it is in any way possible to unify." The fundamental presupposition of all knowledge is that the universe is a harmonious system. The character of the system presupposed, which does not immediately concern us here, determines our distinction of real and unreal, fact and fiction. We rarely attempt to unify the data in one act of thought. This is left for our more metaphysical moments. Ordinarily we take the world piece-meal, and make use of different preconceptions, like different pigeon-holes—"apperception-systems," as Stout calls them—for different data. These various apperception-systems are in practice more or less divergent and unrelated. It is far from being a sign of mental weakness that a man should regard a given fact as the expression of a Divine Providence, and, at the same time, as the inevitable outcome of mechanical forces, even though the two conceptions seem to him immediately contradictory; for he may still cherish the belief, as many do, that they are ultimately reconcilable. If, however, he be firmly convinced that they are irreconcilable, he will reject the one while retaining the other. For the basis of all his knowledge is the conviction that only a harmonious system of things can be ultimately real.

(2) Turning now more particularly to the elements of experience, the theory of apperception claims that, so far from being the original data in the mental process, they are the later products of the preconceptions by which the process is guided. Experience exists because we look for it. It is what it is because it is what we are prepared to receive. That this is the fact in many cases of common experience, no one will deny. The captain of an inward-bound steamship sees land before any

of his passengers, because he knows where to look and what to see, while the passenger may search in vain until the peculiarity of the shore is described to him. This is particularly true of sounds and odors. 'Do you hear anything or smell anything?' may receive a negative answer, when 'Do you hear footsteps?' or 'Do you smell gas?' receives confident affirmation. I know at once when my name has been uttered in conversation about me though I have failed to distinguish anything else. The same is true when one hears one's native language in a foreign city. It is a familiar fact in the laboratory that a student must be taught what to see, *e. g.*, in a microscope, before his results are of any value; and even trained observers are not always to be trusted to see what is there if they have prejudices of their own.

This is also true, as I have already hinted, in the case of scientific experiment. We make an experiment because nature of herself refuses to work out our theory. The facts that ought to confirm the theory are complicated with disturbing conditions, which it is the object of the experiment to exclude; and its confirmatory value depends upon the success of the exclusion. The preconceptions according to which the exclusion is effected are expressed in the nature of the apparatus. The subsequent phenomena are then the 'results' of the experiment, because they are the only ones which the preconceptions of the experimenter allow us to regard as such.

Scientific observation, as Jevons points out, differs from scientific experiment only in degree. In observation we wait until nature offers us the proper conditions, instead of attempting to secure them by force. And, again, our facts are such only as we think we ought to receive as such. Thus the planet Uranus was discovered only after an elaborate calculation had determined where it ought to be seen. The weight of the atmosphere was finally demonstrated because Pascal had a barometer carried to the top of a mountain. In both cases the experienced facts were the outcome of preconceived theory. And the same is true of modern discoveries in disease-germs. The germs have been discovered in most cases as the result of investigations stimulated by the formulation of the theory. The theory may

not be the only factor in producing the facts, but without some form of theory they would not have been discovered.

Now the apperception-theory teaches that what is true of active attention (so-called), and the deliberative processes of science, is true also of the ordinary processes of sense-perception. We may illustrate again by reference to space and cause. Our usual space-experience consists simply of that which the space-preconception renders intelligible. We do not, for example, observe that an object grows smaller and fainter when receding, or that we get a different image with each eye. What we see is one object remaining always of the same size. Whatever the physiological conditions may yield, is modified to conform to this conception ; and whatever is irrelevant or opposed to it does not come to consciousness at all. Thus it happens that the consistency of space-perception remains undisturbed by after-images, entoptic appearances, irregularities of the retina, chromatic aberration and the like, which are so completely excluded that only a considerable effort will enable one to see them at all. The preconception may operate to the extent of falsifying the data, as in the case of the pseudoscope, where the only objects whose relief is reversed are those in which the reverse relief is conceivable. A human face, Professor James tells us, cannot possibly be seen as hollow.

The cause-conception operates in a similar manner, and carries on a selective function, not only as a category of science, but as a condition of sense-perception. If I add together all the possibilities of experience within my reach, including all the objects that touch the outside of my body, and the possible feelings from inside, also all the sounds, odors, and sights that are at any one moment within my field of experience, and then remember that a similar complexity occurs at every moment of my life, the result is a bewildering confusion, making a consistent train of ideas at first sight inconceivable. That a consistent train of ideas exists is due, according to the apperception-theory, to the presupposition of cause which keeps out of consciousness all that tends to introduce disorder. We reduce our experience to the conceivable, and the conceivable is the order of cause and effect. When,

for example, I hear footsteps outside my door, I know what may conceivably follow—a knock at the door, let us say. But so far as mere external conditions are concerned, almost anything may follow—the noise, say, of a distant street car. That I hear the tap on the door, however faint, and ignore everything else is due to the operation of the conception of cause. Except for this, any object might be followed by any other, and a consistent train of experience would be impossible. It is this that enables the physician to detect symptoms which are imperceptible to the anxious relatives. No better illustration can be found than the attitude of the popular mind toward the colors which a modern painter introduces into his landscapes. For the 'plain man,' colored shadows are fantastic and absurd. He claims that nothing of the kind is found in nature—and rightly so, for according to his conception of the causal relations of lights and shadows a colored shadow is impossible. But when he has once admitted the opposite as a possible hypothesis, he finds it immediately confirmed by the discovery of the fact.

I have dwelt thus long and tediously upon the theory of apperception, because I wish to emphasize the thesis, that the final result of the apperception-theory is to dispose completely of the associational 'order of experience' in the usual sense of that term. The theory of apperception teaches not merely that an order, at first passively received, is interpreted, or re-interpreted, according to our preconceptions; nor merely that the preconceptions are necessary and useful instruments for the discovery of an absolute order, but that they determine from the outset in sense-perception what is to constitute experience. In some manner the irrelevant elements are discouraged from entering before they even show their faces at the door; and the preconceptions thus reign supreme, dictating not merely what the facts shall *mean*, but also what they shall *be*.

Now I assume that associationists would on the whole agree with the statement of facts here given, though, of course, their own statement would be made in different terms. In place of preconceptions as determining factors in attention, they would speak of "groups of latent ideas" (Ziehen); and since these groups

are themselves the associative result of earlier experience, they would still hold the position that the mental life is the outcome of experience and of nothing but experience. The development of the cause-conception begins, for example, with the perception of the more immediate and obvious causal connections. These tend by their frequency to beget the habit of looking for causal connections, which results in the discovery of those cases where cause and effect are not in immediate succession. In this sense the associationist admits the fact of attention and choice, the choice being ultimately determined by experience itself.

Assuming, then, that the associational theory admits the fact of selection, we may go on to inquire in what sense it can still hold that the original material of consciousness consists of elements of experience. In answering this question it is important to note that the associationist's 'experience' must include the rejected as well as the chosen elements; for it is to unselected experience, acting according to laws of its own without interference from any external principle that he attributes the development of consciousness, and of selective attention itself. What then has happened to the rejected elements? Where did they really exist? Not, of course, in the consciousness to which we attend, since this is excluded by the admission of selection. Possibly, we might say, in 'unconscious' or 'subliminal' consciousness. But this answer is hardly to be expected from an associationist, since no school has been more emphatic in rejecting 'metaphysical' hypotheses of this kind—and in any case the change of *venue* would not dispose of the problem. For of what happens 'below the threshold' we can judge only by what happens above; and if an independent principle of selection or apperception determines the conscious life above the threshold, it may just as well do the same below.

I hold then that the only definition which a consistent associationist can give to the term 'experience' is that of 'sense-stimuli.' When he claims that knowledge is the result of experience, unmodified by any other factor, he means that it is the result of neural processes set in action by physical forces acting upon the end-organs of sense; and it is the sum-total of these forces that is represented by the mental development. They may or

may not be accompanied by consciousness. The concomitant consciousness has in any case nothing to do with the process. The sequence causally operative is the sequence of events initiated in the end-organs. It is there, and there only, that the associationist can find a fixed *order* of experience. Introspective analysis yields no order, since it can never be extended far enough to include all the elements. But the mechanical principle guarantees the brain to be an infallible registering apparatus. Every vibration of any kind or extent, great or small, which reaches an end-organ, must, by the very conception of natural law, have its effect upon the brain, just as every drop of water has its effect upon the hardest rock. It matters not whether the stimulus be above or below the threshold of attention. It matters not whither the attention be directed at the time, since this cannot prevent a sense-stimulus from reaching the eye, or from being registered in the condition of the nervous system as a whole. Every impact upon an end-organ has its specific effect. Its effect may be negatived by a stimulus of another order or greater frequency, but, in any case, the condition of the brain is different from what it would be had the impact not occurred. Granting, then, that the brain is the outcome of none but mechanical laws, and acts according to none but mechanical laws, the nervous development on the whole must represent the algebraic sum-total of sense-stimuli.

An excellent illustration of the tendency implied in associational theory is found in the contrast of Mill's and Spencer's views of the development of moral impulses. So long as Hedonism maintained that the moral impulses were the outcome of a *calculation* of pleasures and pains, it was open to the objection that the conditions were too complex to be ever capable of calculation. But the case is different when they are referred, as by Spencer, to the mere dead weight of outer relations. Granting that every pleasant or unpleasant stimulus has had its appropriate effect upon the nervous system, the brain must represent a summation of results far more accurate than that of reasoned calculation. It is similar in the case of space and cause. The number of possible optical complexes, on the one hand, and of tactile-motor

complexes, on the other, is in each case practically infinite. How, then, could the primitive mind succeed in relating the two scales whose relation the scientist of to-day finds so difficult to explain? The associationist answers this by reference to the ages occupied in the process of evolution. And no doubt this explanation would be sufficient if we could understand whence the first clew to the relation of the two scales had originated. The difficulty can be more easily stated in reference to the cause-conception. If experience were in the form of a single element *a* followed by a single element *b*, if, to use a concrete illustration, all of consciousness at any given moment consisted of a white crystalline loaf, followed at the next moment by nothing but a sweet taste, it is easy to see how the white loaf would be associated with a sweet taste, and how the association would be strengthened by frequency. But since the number of elements at each moment is countless, we have to explain how the primitive man discovered, to begin with, that the appropriate consequent of *a* was *b*. It is a case of a needle in one haystack to be associated with a thread in another, and this by an agent not primarily aware of the existence of either. Repetition of experience fails to remove the difficulty, for a connection of terms which was not recognized at the time could not be remembered afterward; and, unless the connection had been remembered, our primitive man—or animal—would be no further advanced after a thousand instances than after one. It seems, therefore, impossible, if we refer to conscious processes between conscious elements, to explain the development of thought by association. But if we substitute brain-processes and external stimuli, the theory becomes intelligible. Every sequence of *a* and *b*, however complicated with other elements, and however indistinguishable for consciousness, must, according to mechanical law, be registered in the brain. Each later complex stimulus containing the sequence of *a* and *b* serves to reinforce its registration, though the sequence still be for consciousness indistinguishable from the other elements—just as the common elements are emphasized in a composite photograph. It is inevitable, therefore, that the connections in the brain shall eventually represent, according to their relative indissolubility, the

frequency of the corresponding connections in the previous order of sense-stimuli.

How far is the position here outlined actually taken by the associational writers? It is not, so far as I know, anywhere distinctly avowed. The cause of this is easily understood if we grant, as I have tried to prove, that the distinction between the order of stimuli and the order of consciousness is the product of the recent elaboration of the conception of attention. Only one or two of the most recent associational writers have attempted to deal with that conception. For the general history of associational theory the question here discussed is one that never arose.

Nevertheless, it seems to me easy to show that the theory of association was from the outset a distinctly physiological theory, and that its recent developments have tended more positively in that direction. Germs of the physiological conception already appear in Locke. In his chapter on the association of ideas, he attributes the "wrong connexions of ideas" to "custom," which "settles habits of thinking in the understanding, as well as of determining in the will, and of motions in the body; all which seems to be but trains of motion in the animal spirits, which, once set agoing, continue in the same steps they have been used to, which, by often treading, are worn into a smooth path, and the motion in it becomes easy, and, as it were natural."[1] Locke, to be sure, is referring here merely to "wrong connexions," though he conceives his explanation to be a possible one for all trains of ideas. The theory of association begins properly with Hartley. No one who reads the *Observations on Man* can escape the conviction that he is attempting to establish a physiological and mechanical hypothesis as the explanation of mental life. "One may expect," he says,[2] "that *vibrations* should infer *association* as their effect, and *association* points to *vibrations* as its cause. I will endeavor, in the present chapter, to trace out this mutual relation." And though in later passages[3] he tends to speak of a paral-

[1] *Essay Concerning Human Understanding*, Fraser's Ed., Vol. I, p. 529.
[2] *Fourth Edition*, 1801, p. 6.
[3] *Ibid.*, pp. 33 34, 72.

lelism of vibrations and associations, rather than of a causal relation between them, what he clearly has in mind is not the abandonment of the mechanical hypothesis, but the distinction between the hypothetical character of the causal relations and the actuality of a correspondence of some kind. Hartley's treatment of the subject comes much nearer to that of the most recent writers, such as Münsterberg and Ziehen, than that of any that intervene. Hume, James Mill, J. S. Mill, and Bain offer little ground, I admit, for the physiological interpretation. Bain, to be sure, thinks it needful to preface his *Senses and Intellect* with an account of the nervous system, but his method and general vocabulary is predominantly psychological. But in J. S. Mill some physiological bias is evident. In his review of Bain[1] he states that one of the latter's most important advances upon the work of his predecessors in the '*a posteriori*' school is his use and command of the facts of physiology. In the same paper[2] Mill, while denying that the association-theory is materialistic "in the obnoxious sense," nevertheless admits that it is more materialistic than the opposite theory, and justifies Brown in calling it a physical theory. Priestly had also, in his work on Hartley, called it a mechanical theory; and popular thought has always conceived of it as a mechanical view, using the term, however, in the merely metaphorical sense to mean that the mind acts like a machine, that is, with the regularity of a machine. What I am here trying to prove is that the theory is literally mechanical, that it attributes mental development to the purely mechanical operation of the brain set up by the action of external mechanical forces. Mill, indeed, to avoid the imputation of "obnoxious materialism" cites Berkeley's idealism as a phase of associational theory. And no doubt Berkeley was a factor in the development of associational theory, but hardly because he was idealistic. I regret that want of space prevents an interpretation of Berkeley, with proper references to chapter and verse; but no one, I think, who reads Berkeley can fail to notice the difference in tone and purpose between him and either Mill or Hume. Berkeley's insistence

[1] *Dissertations and Discussions*, Vol. IV, p. 120.
[2] *Ibid.*, p. 113.

upon the sole reality of ideas was directed mainly to the destruction of that inert thing called matter, hence to the strengthening of the belief in the reality of the soul and God. Mill, on the contrary, is anxious to get rid of the soul or ego; but with matter he is at least patient.

Mr. Spencer's contribution to associational theory marks not only a great advance upon Mill and Bain, but an advance in the direction which the theory has subsequently maintained. And the view taken by him of mental development is distinctly physiological, mechanical, and materialistic. Mr. Spencer, it is true, refuses to be called a materialist. The antithesis of subject and object, or of mind and matter, he tells us, is not to be transcended. Each can be understood as conditioning the other, and what their actual relations are could only be disclosed by a view of that ultimate reality the knowledge of which is forever beyond our reach.[1] But, in the meantime, he has already told us something of their relations in the statement[2] that the "outer relations" *produce* the "inner relations." And a careful reading shows that this is no chance remark, but a statement of the method underlying his whole theory of development. The primary fact is the existence of "persistent outer relations," which, in the course of human development, reproduce themselves in the form of "established inner relations." The medium and final explanation of this process lies in the brain, which is the "organized register of infinitely-numerous experiences received during life."[3]

If the brain is the register of experience, then the experience registered must be the order of external stimuli, rather than the conscious order. But I find no statement to this effect, and the question is in fact one that never comes up. Attention has not yet entered as a factor into Mr. Spencer's psychology. We may infer his position, however, from his other statements. His identification of experience of "outer relations" and "environment" seems to show that what he means by experience is the order of sense-stimuli. For even if we could stretch the meaning of

[1] *Principles of Psychology*, 3d ed., Vol. I, p. 627.
[2] *Ibid.*, p. 419.
[3] *Ibid.*, p. 470.

"outer relations" so far as to make it indicate merely relations between sensations, we could hardly do the same with "environment." And that the outer relations are properties of the external objects is further shown by the summary of the knowledge-process in the *Ethics*.[1]

That Mr. Spencer's psychology takes the direction here outlined as that of the association-theory, is still more decisively shown in his estimate of natural selection as a factor in the genesis of mind. In assuming that the mechanical theory guarantees that the brain-development will accurately represent the environment, I have also assumed that the brain is subject to no other influences than those of the sense-stimuli. But, of course, the contrary is possible. Brain-development may, as Professor James suggests,[2] be due either to the 'front-door' influences of experience, or to 'back-door' influences which act on the brain directly without the medium of nerves and end-organs. Direct influences of this kind may cause the growth of the normal brain just as a tumor causes abnormalities. The conceptions of space and cause may be due to 'molecular accidents,' and the correspondence of organism and environment may be due to natural selection. But natural selection cannot be depended upon for a complete correspondence of outer and inner relations. It can at best only eliminate those inner relations whose existence is disadvantageous to the organism—and only so far as they are disadvantageous. It cannot affect those that are neutral. The artistic conceptions may, for aught we know, have no relation to the struggle for existence; and the conceptions of space and cause may be useful and workable in practical life without by any means furnishing a true picture of environment. It is interesting to note, therefore, that Mr. Spencer gives to natural selection a merely subordinate place in mental development.[3] The brain-structure is, according to him, due mainly to the inheritance of acquired characteristics, that is, to the inherited experience of individuals. It has, therefore, no modes of operation except those

[1] *Data of Ethics*, Ch. VII, §§41 and 47.
[2] *Psychology*, Vol. II, p. 627.
[3] *Ibid.*, Vol. I, p. 615.

which have been given it by experience, *i. e.*, by the environment, and this serves as a guarantee that it will continue accurately to register the changes in environment.

The most modern representatives of the school are Ziehen and Münsterberg. Ziehen adopts, as a practical working basis for physiological psychology, the conception of a parallelism of material and psychical processes, at least in the case of those processes with which physiological psychology as such is concerned. According to this conception, each side is equally the conditioned and the conditioning, the determining and the determined.[1] We should expect, therefore, that each would receive equal attention. Even a physiological psychology ought to be interested in the expression of psychical laws in psychical terms. If there are any really psychical laws determining the succession of psychical states, their determination is highly important from any point of view. But Ziehen's method of procedure seems to argue that there are no mental laws. One will look in vain, in his treatment of association,[2] for any explanation on the mental side, such as, for instance, Mr. Bradley attempts in his *Logic*. The connections between sensations and ideas are explained by the connections in the brain—where all the real work is done.

Ziehen's conception of a 'sensation' appears in his treatment of attention. The latter is the result of a contest between competing sensations,[3] depending upon their relative intensity and distinctness, and the condition of the latent ideas, which, by the way, are "deposited in ganglion cells."[4] Here is one case of attention[5]:—"While we are taking a walk numberless visual sensations constantly throng our consciousness. If the idea of meeting other strollers, for example, is in condition to be easily reproduced, the visual sensation of an approaching friend or stranger attracts our attention, and determines our further movements and ideas; but if this idea is checked by the predominance of other thoughts, we pass the approaching person in a state of

[1] *Introduction to Physiological Psychology*, p. 2 (English translation).
[2] *Ibid.*, Chapters IX and X.
[3] *Ibid.*, p. 207.
[4] *Ibid.*, pp. 172, 173.
[5] *Ibid.*, p. 211.

absent-mindedness without heeding him." Now, it should be remembered that this is not an isolated case, but a type of what happens at every instance of our waking lives. We are always 'absent-minded' to by far the greater number of the sense-stimuli. What becomes of the unnoticed stimuli? Are they represented by 'unconscious sensations,' or do they remain merely physiological excitations? Ziehen has answered the question himself by a previous reference to the same illustration:[1] "When the friend passed, the retina and optic nerve were irritated, and the latter conducted the excitation further to the occipital lobe of the cerebrum, the so-called visual center." But this is all—unless at a later moment it occurs to me that I have passed the friend, when "for the first time a concomitant psychical process appears in response to the material excitation of the occipital lobe." Now, since this is one of the sensations competing for attention, it must define the status of the other competitors at the stage of competition. That which constitutes the order of experience and "determines the subsequent course of ideation," is, therefore, in its final analysis, the competition, not of sensations, but of the physiological excitations representing the sense-stimuli.

As a final evidence of the tendency of associational theory, let me translate, without comment, the following from Münsterberg.[2] In support of the hypothesis that the psychical order is determined wholly by the physical order, he says: "We said first that the phenomena of external experience, as empirically presented, form a closed series conforming to the law of cause and effect; that, on the other hand, there are frequent breaks in the psychical order, and that, even where the terms are in immediate succession, there is, in spite of a certain regularity, no absolute conformity to law. An order of psychical cause and effect is therefore not empirically given. Both facts are most simply expressed by the hypothesis selected. Matter with its unchangeable laws is permanent. Its operations must therefore form a continuous, determinable series. Mental phenomena occur only in the presence of certain material conditions, that is

[1] *Ibid.*, p. 4.
[2] *Die Willenshandlung*, p. 109.

to say, only where certain material phenomena occur do we find the phenomena of consciousness—and then only in the order determined by the physical laws. This explains why the psychical phenomena are not continuous, why they form no causal order, and why, nevertheless, they are not wholly without order. Their regularity is not only not the result of psychical law, but is positively determined by the law governing the concomitant physical phenomena."

Two tendencies have been curiously interwoven in the history of associational theory, the one represented by the idealism of Berkeley, and the other by the physiological bias of Hartley. The combination of the two is found in the work of Hume, the two Mills, and Bain. It is this combination of tendency which leads associationists to speak of their data as ideas, while treating them as mechanical things. It is this too which gives them the conviction, nowhere so firm as among associationists, that their data are the facts of immediate experience, and, therefore, safer than the 'metaphysics' of their opponents. It is this conviction which I have here sought to disturb by showing that the associational theory, in its definition of facts, as well as in its statement of laws, presupposes the mechanical as distinct from the teleological theory of the universe.

The facts upon which the associative process rests, the original elements whose relations once set up tend to persist, cannot be found in conscious experience. Impartial introspection yields us no order of sensations. The order which the associationist assumes is not an observed order but an inferred order; the presupposition underlying the inference is that the human being is subject to mechanical and physiological law. Granted that the mechanical connections between eye and brain are unbroken, every object in the field of vision must cast its image upon the retina, and the excitation there aroused must be transferred to the brain, and have its share in determining the future of the organism —whether consciously apprehended or not. This is the ground of its definition as a fact of experience—not because it is immediately apprehended as such, but because it necessarily follows from the mechanical conditions assumed to exist. The associational

'fact' presupposes, therefore, the mechanical *theory*. Associationists themselves have frankly implied that their law of combination was a physiological law, but they have continued to speak of the data combined as psychical data. This reminds one of Clifford's simile likening the conception of consciousness, as intervening in physiological processes, to a train of cars held together in the middle by the feelings of amity between the stoker and guard. Associationists simply reverse the situation, and give us trains of ideas joined by iron coupling-bars. Physiological links cannot bind together psychical states. If associationists are still to retain physiological bonds between elements —and this seems to be their destiny—they must in consistency substitute sense-stimuli in the place of sensations.

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THE HEGELIAN CONCEPTION OF THOUGHT. II.

IF we come back now to the specific problem with which we are engaged: Can the real world which is revealed to us by thought be itself reduced to thought or knowledge? we shall perhaps be able to use our terms more intelligently. As regards our own experience, at least, we can say without hesitation that it is not mere thought, and that thought, indeed, plays a subordinate part in it. Our life is one of doing and feeling even more than it is of thinking, and it is only for the sake of doing that we begin to think at all. Granting now the idealistic position, that the type of explanation for the world at large must come from our own conscious lives, what is the kind of experience which we are best able to apply to the universe? Is it that form of experience which we call thought? Is it feeling? Is it something different from both of these?

The case for feeling, as opposed to thought, I shall not attempt to argue at all, but shall reject it at once. For thought, however, there is more to be said. If, indeed, as we have discovered, thinking is not the supreme principle of our own life, and if what we know psychologically as thought is subservient to another form of experience, a suspicion naturally arises as to whether a different order of precedence obtains in the universe at large. Nevertheless, as a device for unifying the world, the hypothesis of its thought existence has, it would seem, a certain obvious advantage. If we are looking for a principle of unity for things, we naturally hit upon knowledge as that which promises the best results; for knowledge seems to overcome the most serious obstacle in the way of unity, *i. e.*, the time succession of events.[1] In themselves things seem to spread out over an expanse which forbids any 'altogetherness,' since, at any point we may select, vastly the greater part of the universe is either in the past or in the future, and so non-existent. In knowledge alone do we ap-

[1] Green, Vol. I, p. 79.

parently escape from the paradoxes of time, and get the whole packed into one single moment, wherein all the parts exist together side by side.

But now we need to define ourselves a little more exactly. In saying that thought is the principle of reality, I do not suppose that any one would mean the process of thinking as it goes on inside our heads; if the process of thinking is meant at all, it is rather in the larger sense of judgment, and is not opposed to judgments of perception, but approximates rather to the perceptual type. However, it is not as a process at all, but as a content of thought merely, that the word is used by the thinkers whom we are now examining; the process of thinking itself brings back the same time-succession which it is supposed we have overcome. But now is it possible to separate the content of thought from the process of thinking, as we must necessarily do if thought is to be timeless? I do not find any adequate recognition of this difficulty. Let us consider the matter, therefore, more in detail.

If we take any act which we know empirically as an act of thinking, there are three elements which, directly or indirectly, this involves, and which must be kept carefully apart. There is, first, the act of thinking itself as an act of mine, and this we will set aside for the moment as not what the Hegelian has in mind. There is, again, the universe of reality which we think about, and which is reproduced in the content of my thinking. And there is, finally, the general idea, or concept, as one element in my thinking, whose function in the judgment has already been briefly described.

It makes a great deal of difference, however, when we speak of reality as thought, whether we intend to refer to the concrete world which we see when we open our eyes, and which we think of as a connected succession of events, or whether we mean to describe reality, after the type of the concept, as merely abstract, as constituted by mere relations. And the Hegelian is far from keeping these two very different conceptions distinct. I will grant that what he means, or wishes to mean, is what he calls the concrete universal. The fact for which the concrete universal stands

is that the universe is an individual whole, within which all particular facts enter as related parts.[1] Such parts are perfectly concrete and definite, and each is itself and no other, and has its own relations differing from the relations of any other part; they are universal only in the sense of being not isolated, but in connection with the whole, and have no resemblance to the abstract universals which we commonly, and, I think correctly, associate with the name of concepts.[2] Nevertheless, I am inclined to believe that there is more than a mere carelessness of phraseology behind the ambiguity which thus results; there is a distinct logical compulsion in the direction of the abstract conception of thought. For otherwise it seems to me impossible to separate thought from the act of thinking, and maintain its timelessness, in the sense which the Hegelian requires. We can, it may be granted, somehow think the concrete world process together in a single pulse of consciousness; but we still have two things, our thought, and the world we think about, and anything we can say of the first does not necessarily apply to the second also. Even if our thought is a timeless whole, in which the entire universe is *ideally* present, we have not thereby disposed of the universe itself, which we expressly distinguish as, *in its reality*, not present in an indivisible moment, but extended through a long expanse of time. Or, to take an example close at hand, I have an experience which extends through an appreciable duration, and which I afterwards think of as a single experience. It is, at best, only in my thought of it that it is present as a whole, but it is turning things quite upside down to say that it only is in my later thought that it is real, and that, as originally experienced, it has no reality.

Our assertion, then, that reality is thought, means nothing at all unless it means, definitely, that the universe in its own existence is precisely such a reality as my own experience in thinking of the universe; and the timelessness of thought, accordingly, stands or falls with the timelessness of my own thinking ex-

[1] Cf. Watson, *Jour. Spec. Phil.*, Vol. X, p. 30.

[2] I think it is best to reserve the word 'concept' for a certain function in the judging process, where it is always abstract and general. 'The universe' may be used as a concept, but what I mean by *the* universe, as I think about it, is not a concept, but a reality.

perience. But in this sense a thought is not timeless; it is a psychical event in my life, and, like every other psychical event, it contains a before and after. Psychologically that is its very nature; to suppose that we can have a psychical event, whether it be a thought or anything else, which does not occupy time, is to suppose that we can get, in a time series, a timeless moment, and so that a number of timeless moments is somehow transformed into a temporal process. But, it may still be said, somehow or other thought *must* transcend time, or else it would be impossible to think things together. I have no wish to deny this; I only contend that if we hold by the facts, we must say that it transcends time, not by abolishing it, and bringing everything together in one static moment, but by being a unity *although* temporal. We must recognize that thought is not the changeless fact which, for purposes of its own, it is accustomed to take its content as being, but that it is itself a process; and that, accordingly, the unity which we attribute to the universe must be a unity *in* process, not outside it. This, however, is a problem which will have to be postponed for the present; it is enough to say that thought, taken as a fact of experience, is certainly not to be opposed to all other psychical facts, as the timeless to the temporal.

Why, then, are we so ready to take thought as timeless? The justification is twofold. In the first place, we do seem to be able to gather the whole wide universe into a single thought content. The act by which we do this, I repeat, always, as a matter of theory, occupies a definite time, for an absolute fixed point of time is unthinkable; still, for all practical purposes, it may be taken as instantaneous. Of course, the process of acquiring fresh knowledge about anything takes an amount of time which is usually very appreciable; but when by acts of judgment we have once brought the details of knowledge into a unity of some sort, we can afterwards assume this unity and hold it before the mind, can think it, in the sense of referring to it or meaning it, without going through the whole process of thinking by which originally it was arrived at. In this way we can think a complex object, a long series of events, even the universe as a whole, in what is

practically an instantaneous act. But if we look closely, we see at once that this is only possible, on the one hand, through the presence to the fact itself, however extended, of some sort of unity, and, on the other, through our power of abstracting this unity, and of meaning, through its general features, a whole from which the details have been eliminated. And if we suppose that all the complexity of relations which such a unity involves is itself ever actually present to any thought which it is possible to call momentary, it certainly would seem that we are mistaken. Really to think any concrete thing in its details, as opposed to simply meaning it as a whole, occupies a very appreciable length of time. There is, however, a more important consideration than this for our present purpose. If we take the conceptual element in the process of thinking, we have at last something which in a proper sense might be called timeless, not because it occupies no time in the conscious life, but because position in the time series is expressly abstracted from. The concept as such is a thing of relations pure and simple, quite apart from their concrete embodiment. The abstract animal has form and size and color in general, not any particular form or size or color which would give it a definite place in what we think of as the external world. We have seen that such a definite place in the world is not called for, indeed it is excluded by the function which the concept performs; what is needed is no element of existence, but a tool, a general intellectual schema, which, by representing the end towards which we are working, shall keep it constantly before the mind, and guide us in the discovery of the real fact which we are looking for, whether this be wanted as a means to a practical end, or as a fact which is likely to throw light upon some purely intellectual problem. These relations, which are summed up in the concept, may be embodied in any number of concrete instances, each with its place in the time series which stands for real existence; but since we abstract from any place in particular, it is as a relation essentially timeless. A relation bases itself for thought upon the act of passing from one point to another, and these substantial elements between which the relation holds in so far are real, are individual; but since the same process may apply to a

similar case in any other part of the real time series, it is not limited to any in particular. Of course these relations are real in so far as they actually hold in concrete situations, and they enable us to sum up certain general facts about reality, certain laws of its working, which are perfectly true *of* reality, and are indispensable as tools for our own intellectual life. But, as concepts, they are not real, apart of course from their existence as psychical facts; they have no place in the actual world, but merely stand for the way in which our knowledge uses certain elements of this real world for its own private ends.

I am far from saying that any one, even Green, is consistent in reducing the universe thus to a concatenation of abstract timeless concepts; there is the other side always present, the world as a concrete thought content. I only contend that the two conceptions are seldom distinguished, and that it is clearly to the abstract view of thought that Green's position often seems to lead. It is only thus, I have tried to argue, that thought appears as timeless. It is, again, only by reference to the abstract concept that Green's treatment of sensation gets a sufficient explanation. The color of an object, as entering into a concept, is no irreducible residuum of existent fact; such color *is* a mere relation—the relation to the visual organ. And we consequently substitute for the feeling of the sensation the fact that the sensation is capable of being felt. But from any other point of view, we still have the stubborn reality of feeling left confronting us. So, too, in dealing with conceptual existence, we can ignore the question as to whose thought it is we are concerned with. The fact that we are abstracting relations from their definite embodiments, carries the further consequence that we abstract also from the thinker. A relation, so to speak, is eternal, the same now and hereafter, here and there, in my thought and in yours. This reduction of concrete reality to a conceptual abstraction I shall make no attempt to disprove in detail; I shall assume that as soon as it is clearly stated, its untenability is evident. And, accordingly, in what follows I shall consider that I am justified in eliminating from the argument all considerations that point to it.

From the standpoint which we have now reached, it is evident

that, in identifying reality with thought, thought cannot be used in *any* ordinary sense of the term—in any sense, *i. e.*, which distinguishes it from feeling or sensation. The sensational fact must enter into what we mean by thought as a component element. My own life, at least, which I can think about, and so get within the compass of thought, is clearly more than thought; and so even if we deny the feeling element to the reality of the external world, we cannot make thought coextensive with the universe. We may, therefore, follow the more recent idealists, and substitute experience for thought. But the mere word is no talisman to unlock all metaphysical secrets, until it is defined. And now it begins to be more difficult to point out any actual form of experience which will exemplify all that we intend to cover. The process of perceptual judgment might seem to offer itself most obviously, but we have not as yet reached the point where we are ready to think of reality as a process. If, then, we hold to the notion of an unchanging existence, the shortest step is simply to retain all the characteristics which belong to a thought content, and add to these the further element of immediate sensational filling. Or, in other words, the nature of reality will resemble, on a large scale, what we get in the act of perception, at the moment when we recognize an object—a sensational experience which is not, however, mere blind feeling, but a recognized and rational content.

Such a conception avoids the difficulty which is involved in a denial of sensation, but in other respects it is open to the objections which have already been urged. We still are dealing with an all-complete and unchanging reality, taken as summed up in a single moment. Such a timeless reality is something which our experience never is, and strictly, therefore, it is inconceivable. We can, indeed, perceive an object as a whole—this is a fact of which an explanation will, of course, be needed—but neither our perception, as a psychical event, nor the object itself in its own existence, is properly timeless, but occupies a certain duration; we can get a timeless reality only by falling back again upon the pure concept. In assimilating thought to perceptual experience, we have, again, done nothing to meet the objection that thought,

and so perception, in so far as it either stands for thought as a whole, or forms an element in judgment, is only a secondary phase in what we know as experience. The mere recognition or knowledge of an object, whether in the medium of pure thinking, or in the medium of perception, is not ultimately an end in itself; we recognize it, in order in some way to use it. If we were to judge, however, from the statements of the Hegelian, we should conclude that man is essentially only an intellectual being. The element of feeling has its value merely as a test of intellectual truth.[1] It is, apparently, the simple reproduction in human experience of an ultimate reality already existing, which constitutes our life and its ideal goal. Now, this not only is not true in our practical life, but it does not, when we examine it, justify itself as an ideal on the intellectual side. When the Hegelian has reached his final result of a great complex of relational existence, reproduced in the form of finite experience, an uneasy consciousness usually urges him to stave off the inevitable objection as to what can be the use of these minor copies of reality, if the universe is already in enjoyment of its full perfection, by the dignified reminder that it is not for us to ask why reality is thus and so, but thankfully to accept the facts.[2] Is this, however, really true? Is not the Hegelian confusing the question Why? with the question How? That we are unable to say how reality is made (in distinction, of course, from the entirely different question, how reality works), I am quite ready to admit; but can we, indeed, forbear to put the other question, Why? Is it not the ultimate problem of philosophy to inquire into the meaning of facts, their relation, not to brute existence, but to ideals? And if so important a fact as finite life is left standing merely *as* a fact, not only with no rational and ethical justification apparent, but seemingly in a positive way superfluous and useless, have we not the right, just for this reason, to object to the theory which brings us to such a pass? Now, to my mind, the reducing of human life to mere gradations in falsehood, from which any ad-

[1] Green, Vol. II, pp. 189, 190.

[2] "If it is asked *why* the absolute reveals itself gradually in the finite, I should answer that the question is absurd." Watson, PHIL. REV., Vol. IV, p. 368.

vance is only a lessening of the amount of error, without a corresponding positive gain, and in bringing which to a complete accord with truth, if, to suppose the impossible, such a result were ever to come about, we should merely have succeeded in duplicating, without any apparent reason, a fact already there complete—such a thing is, I say, essentially superfluous and without meaning.

What, then, is the element in the ordinary form of the Hegelian argument which it still remains possible to accept? There are, as is well known, two general types of interpretation now current of the Hegelian logic. One is that the dialectic represents a process in the human mind, made necessary, indeed, by the facts of reality, but standing for no real process in reality itself. If we start from the most general and indubitable datum possible—the fact that something is—we find that this comes short of the reality which we know; and so by reason of its failure to meet this completer ideal, it continually clamors to be made more adequate, and we have no rest until, by passing from one partial category to another, the circle is at least filled out. The other interpretation, on the contrary, insists that this dialectical process is not simply a process by which we correct our original errors, but somehow belongs, as a process, to the nature of reality itself. In both cases we get our clue to the nature of reality by an analysis of reason as it reveals itself in us,[1] but in one instance we find this in the finished product of knowledge to which reason leads us, while in the other we look to the actual process of judging as a growth. It is the truth at the bottom of the former interpretation that I am now concerned with; the latter I cannot here consider.

Now if we assume at the start that philosophy is no more than an analysis of knowledge, there is only one goal at which we can possibly arrive. Knowledge is not knowledge, except as it is a self-conscious unity, and consequently, any analysis of knowledge, assumed as equal to reality, will lead us to such a self-conscious unity, because that was what we took for granted at the beginning. If, however, we distinguish between reality and the knowledge of it, then we do not, on the face of it, as I have

[1] Watson, *Phil. Rev.*, Vol. IV, p. 362.

tried to show, have to accept any such result. It does not appear evident at once that a reality which can be known in a single unity of consciousness, must of necessity *be* such a unity of consciousness. Taking reality, then, as something distinct from our knowledge, though something which can be known by us, Hegelianism as a method is still in possession of an undoubted truth, but not of a truth which was revealed by any means to Hegel for the first time. If the world is in any sense a unity, and a unity which can be known, then of course its parts are interrelated, since knowledge without relations is impossible; and when we try to take any part as self-sufficient, we shall find out our mistake by its refusal to be thus isolated from its surroundings and still remain intelligible. But if the dialectic really consists in this and nothing more, it represents the process which has been followed by all thought whatever about the world. Philosophy has always proceeded by taking some conception as a hypothesis, and trying to explain the world in terms of it; and then when it discovered that facts were larger than its conception, it would reject this as a final explanation and try something more adequate. We may take Hegel's logic as an admirable attempt to systematize the concepts which we use in explaining things, and show how each in turn, while it represents a real fact in the constitution of the world, and has in its proper place a legitimate use, is capable, in the light of a more adequate and inclusive conception, of revealing itself as only a partial statement of the truth which it involves, and one which needs a good deal of revision and interpretation.

But now this in itself is only a logic, and not a metaphysic. The whole value of our system, as a complete philosophy, depends upon the final term, and whether this turns out as a matter of fact to be a concept adequate to the nature of things; it makes no difference, so far as the validity of the method is concerned, whether it is the concept of a unitary intelligence or not. Now Hegelianism does end with such a unitary self-consciousness; but, as the argument is usually stated, is this self-consciousness the universe, conceived as taking in all existence? I have already indicated my belief that logically it is not. Hegel-

ianism is the victim here of its own epistemological failings. By ignoring the question of the relation between the infinite self and human lives, it practically leaves the latter out of its account; and, so far as its real work is concerned, it has devoted itself to discovering the nature of existence from the side of the object, *i. e., apart from finite minds.* When such finite selves are called mere reproductions of the infinite life, it is clear that this world-consciousness is, for knowledge, practically complete in itself, and is not only not perfected by the addition of human lives, but is sadly confused thereby. The problems with which Green and his followers are concerned in their metaphysics, are simply the problems with which science deals—the manner of conceiving *the external world.* The same thing is true of Hegel in the *Logic;* the concepts of the *Logic* are the concepts relating to the physical rather than to the social world. The nearest result, therefore (and it is a result which I accept), is this: that no object is ultimately conceivable except as it forms an element in a conscious experience; and that, consequently, what we know as the external world of related objects is, in its final truth, such an objectively constituted experience, of which we get the type in our own lives, and that the categories which we apply to objects are only to be understood, in the last resort, and freed from internal contradictions, by reference to this interpretation of what the nature and activities of things really consist in.

Once more I wish to point out that the peculiar claims of Hegelianism, as a method, have now been left behind. We no longer have reality literally present and identified with experience; we are simply trying, as any philosophy must do, to hit upon some concept which will be large enough to find a place for all the facts. If, then, by considering only that portion of the universe which we know as material existence, we have been led to the conception of a unitary self, it is, as I have said, confusing, to say the least, to introduce into this suddenly a lot of copies of it in the shape of finite individuals. Since our common understanding of self-conciousness excludes the additional copies, the natural way of looking at the universe is now to consider it as a plurality or society of selves, not any longer as a

single self. Accordingly, if we go on to deny the validity of this new idea, we are forced to change our method in some degree. The great effort of the early Hegelians was to show how the physical categories imply and enter into the higher category of self-consciousness; the more recent argument insists rather that they *must* enter into a higher unity, but it leaves the 'how' very much in the dark. For Professor Royce it is only the social and ethical categories which are now finally intelligible; the physical concepts for him, quite as much as for Mr. Bradley, are only relatively valid—relatively valid, *i. e.*, in the peculiar sense that we are quite unable to see how they exist in the absolute, or what meaning they can have as applied to his life. Professor Royce, however, stops short with the physical concepts; it is only with Mr. Bradley that we find the tendency carried to its conclusion, and *every* statement that we can make about the absolute overridden and annulled in a unity forever beyond our comprehension. I do not believe a mere 'must,' apart from 'how,' can ever satisfy philosophy, but I cannot here attempt a criticism of the argument upon which this new attitude is based.

In the discussion of the previous pages we have found ourselves continually coming up against the difficulties which are connected with the relation of the Absolute to time, and before closing, I shall need to say a few words upon this most difficult of subjects. I make no pretensions to being able to settle the question, but in what has been said there is a certain point of view involved, which may profitably be made a little more explicit.

I suppose there is a general agreement that the Absolute cannot be conceived as *in* time, in the sense of being enveloped by it. It should be equally clear that in some sense the aspect of time, the temporal series, must be in the Absolute, for the appearance of time certainly exists, and has to be placed somewhere. On Mr. Bradley's theory, it enters into the Absolute in a way inconceivable by us, and is changed there to something quite unlike its apparent form; in that case we are of course absolved from trying to understand it. But if we reject this conception of the

Absolute, and hold that the ultimate nature of reality is intelligible, we still have a choice of standpoints. The position of Green is that reality is timeless, in the sense that it is to be conceived as a thought content. I have already had something to say of this conception, and I maintain that it fails altogether to get rid of time. If, indeed, we take thought as abstract, we get a timeless fact, but only because we have abstracted from time; and if we take thought as concrete, it is as much a process as anything else. The fact that we can, in thought, mean a whole which occupies time, does not make it necessary to suppose that the whole reality has been crowded into this one thought-moment; it has its own extended existence, and we can think it as a whole simply because there is a unity of some sort running through its temporal progress, which we are able to abstract and hold steadily before us. Indeed, if we look more carefully at what we mean when we speak of a timeless reality, we shall find, I think, that the only alternative to a temporal fact is a simultaneous fact; we reduce a series of events to a single moment, but 'a single moment' and 'simultaneity' are just as much categories of time as succession is. The fact is we have not the faintest hint of a category by which concrete existence can be thought apart from time duration.[1] And if we are to choose between succession and contemporaneity, I do not think there is any doubt as to which most truly characterizes reality. To make reality exist in a single moment of consciousness is to take away all meaning from the world. To be sure, we may still affirm that the relations which thus are found in reality are not to be taken in any order, but must be thought in the order of time;[2] but if this order of thought has any meaning apart from just the temporal process itself, I fail utterly to see it.

But, it may be said, there must be a unity which transcends

[1] The continual intrusion of the time element in the form of a subjective reproduction gradually realized, or an "*altered appearance* of a timeless reality," after it is supposed to have been completely exorcised, is very noticeable in all such attempts. Cf. Green, Vol. I, pp. 91, 127, 131; Caird, *Mind*, Vol. VIII, p. 546, *Lit. and Phil.*, Vol. II, p. 447.

[2] Green, Vol. I, p. 478.

time; otherwise it would be impossible that our experience should be connected. Of course I do not deny the unity; I only think it should be a kind of unity which does not contradict the apparent demand that events should be thought as successive, and not as simultaneous. The temporal series is as a whole a unity not in time, but it is a unity *as* a temporal series.[1] Now, to determine what the nature of this unity is, we have not to depend upon any power of metaphysical invention, but have only to analyze our experience as it actually exists. And we find this experience, in the form always of a process, in which the present, as an ever-moving point of reality made actual, rises above the level of the somehow less actual past and future. Now this involves two things. In the first place, the past itself is present in the form of memory, and the future in the form of expectation. This function of memory is recognized by Green,[2] but not, I think, adequately. It is only half the truth to say that in knowledge the past is actually present as past;[3] besides its actual present existence as memory, there is also the *real* past which is not now present, but which, nevertheless, cannot be ignored. To appeal to memory, however, is not enough by itself to secure a genuine unity; if the remembered fact and the memory of the fact are different things, then only the latter, once more, is really existent, and the former has passed into nothingness. We need to add to the existence of the past in memory, the further specification that, through memory, it continues to exert a real *influence* by its relation to the purpose of life. In this way we get what for us seems the only possible reconciliation of two apparently opposing demands. Things are, indeed, related eternally; their meaning and value, that is, never passes but is continually present to the eternal consciousness as a factor which, by its relation to the purposive unity of God's life, never ceases to have a part, and a recognized part, in determining what the future is to be; and yet, on the other hand, the past is really past, and as such has a reality

[1] Cf. Caird, *Mind*, Vol. VIII, p. 548.

[2] Vol. I, p. 507; II, p. 186.

[3] II, pp. 16, 73. Cf. I, p. 114: "That which is *past in reality* is to the self present."

which is not the actuality of the present. And if we are inclined to complain because a fact does not always retain the same kind of reality which it possesses as a present fact, the only answer is that the very conception of purpose necessitates the progressive actualization of one step or stage after another; and if we prefer to a life of purpose the dead level of an all-complete sameness of inaction, our preference has taken a direction which reality apparently has not seen fit to approve.

But it still may be said that we have not yet got rid of the antinomies of time as applied to this continuous process. And my answer is that while we can never *imagine* a reality which is absolutely inclusive of time, we yet are in a position now to see how, in principle, the difficulty may be solved. The explanation seems to be this: that time, in so far as it presents antinomies, is a product of thought, and as such has no place in the absolute life, which finds no need for thinking in the ordinary sense. This may seem to be going back to Mr. Bradley's position that time is only a finite category which in the absolute is entirely transformed; but really it is quite different. Because the reality of time is different from the thought of time,[1] as the reality of a sensation is different from the thought of a sensation, it does not follow that my thought may not mean the reality, and know that it means it. The transcendence of time in the absolute is not something of a quality unknown to us, but it is present in type, again, in our own lives. Take, once more, an active

[1] Every concept has this two-fold aspect—its aspect *for us* as we use it practically, and the real fact for which it stands in ultimate existence. The categories are the tools by which we overcome the isolation and disconnectedness of parts of reality as they first come to us, and bring them into relation to the rest of the world. In their practical use, therefore, they involve the assumption that they are relations which are induced upon realities with a separate existence of their own, since it is by thus starting from a part, as if it were complete, and then passing on to other parts, that our knowledge moves. Causation, *e. g.*, assumes at the beginning two separate objects with their own nature, and an influence passing between them. If, now, philosophy leads us to the recognition that we must start from the whole, and not the parts, and if we come to conceive of this whole as a unitary conscious life, the *reality* for which the concept stands in this life will obviously have to be reinterpreted. But there *will* be always some real fact in God's life for which it stands. Causation, *e. g.*, will base itself upon the actual movement of God's experience, and the interdependence of elements within this as mutually conditioning one another by their relation to the meaning of the activity.

experience of the highest type, say of artistic creation, where we are absorbed in something which does not require reflective thinking, and where, as we progress, there is a direct perception of the meaning we are trying to express as a whole, and of the relations of the various steps to it, those which are still to come as giving direction to the victorious progress of our creative activity, and those which we have passed as conditioning the point we have at any time reached, and having their value still preserved in it. The more self-contained and absorbing such an experience is, and the less need there is to stop and think our way out of difculties, the nearer we are to overcoming, in feeling, the antinomies of time; the whole is a real unity, not of dead sameness, but of progress, which has no sense of its own temporal relations except as these actually enter as an integral part into the value of the meaning which it expresses. Now, of course, any act of ours is limited, and will soon come to an end; and then we are compelled to place it in the time series. Just so long as it continues, however, it does not seem to be *in* time; it is simply itself progressing. The placing it definitely in time is an act of the particular sort which we call thinking, and which arises only when the active experience is checked. Now we have to get our ideas about the world by thinking; our knowledge starts from a very small section of reality, and is enlarged by gradual accretions. Any such section we have, accordingly, to place in time, with something before and after it. And it really is in time, in so far as these time relations point to a real fact in the absolute experience, a real value for it, which we may perhaps best call the sense of progress, as opposed to sameness. The difficulty comes when we carry this way of dealing with parts of reality over to reality as a whole, and place this in an absolute time. But the invincible tendency which we have to do this is an incident of the way in which experience comes to us—a string of partial and disconnected acts, representing a variety of ends, with intervals between them when we are compelled to stop acting; and, in order to understand the conditions which confront us and get started again, we tend to reduce the process of reality to the static form of thought. Reality itself, however, never stops; the sec-

tion which, more or less arbitrarily, we cut off and take as a finished product, is as a matter of fact continually moving forward to new forms of existence, and we only take it as fixed for practical reasons, because we could not manage it if it were constantly changing on our hands; it will not wait for us to find out what we need to know about it, and so we falsify it to some extent, and ignore its continuance, in so far as this is unessential to our present purpose. We do not, accordingly, date an event in time except as we get outside the immediate experience, and take it as a whole of thought, for the purpose of examining it objectively. This is more evident as regards the end of an experience —an experience cannot recognize itself as ended, except as we stop its progress, by making it an object of thought—but it is equally true of the beginning. An experience has, for itself, in so far as it is absorbed in its own meaning, no sense of a beginning as a point in time which something precedes; anything that goes before, whether it be blank time or filled time, is for it non-existent. Whatever has relevancy to the experience is not before it, but becomes by that very fact a part of it, save by an arbitrary division. Of course *we* can have an experience where thoughts of previous events intrude which have no essential relationship to the matter in hand; but that is because of the peculiarity of *our* experience, which, along with its dependence on the thinking process, is so loosely knit that irrelevant thoughts are always liable to break in. In so far, however, as an experience is of the type of active purpose, which is in possession of all the necessary conditions, and which does not need discursive thought, every possible fact that has existence for it is an immediate part of it. But thinking an event, as opposed to having it enter into our immediate experience, implies an obstacle, and so a condition external to the one who thinks; and since for God nothing of the sort exists, his experience will be a single inclusive one, not broken up like ours by intervals of thinking; and therefore there will be for him nothing that is prior or subsequent with reference to this unitary life. Empty time, in which things begin to be, is a natural conception for a finite thinking being; it cannot exist for the absolute life. But, it may still be said, even if for the experience

itself it does not exist, it is really there, as we are compelled to recognize as soon as we think about it. But this is reversing matters; things are *real* as they are for God, and it is our thought, starting as it does from a part of reality as if it were complete, and then piecing this out by gradual additions, which fails to compass reality. Definite position in time, an event which has beginning and end, implies that the function of thought in disregarding that eternal process of reality which is its fundamental nature, and taking it as a well defined and complete whole, has ultimate validity. But reality *is* a process, as opposed to the way we may take it for the purposes of investigation; and this we can only represent to ourselves as the endlessness of God's life.[1] Time itself is for God a factor *in* experience, and outside of experience has no existence; empty time is only the phantom which our discursive and partial thought raises. To give to God a beginning is to destroy his essential nature, and, by reducing a life which is a process to a static point, to blot it out altogether.

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[1] A distinction ought to be made between two uses of the word 'purposive' or 'teleological.' Teleology may imply that the end of action is a distinct *result*, and that the activity itself is only a means to this finished product, which is distinguishable from it, and to which it leads up. But this is to take away all positive value from the activity itself, and make it merely a means to an end; and so at the same time implicitly to make the essence of reality a static fact after all, and progress only a temporary incident. What I mean is, of course, rather the end as actually realizing itself *in* life; value inheres in the process and each step of the process on its own account, and not in its relation to some future result, which may or may not be attained. This is Mr. Hobhouse's "organism."

REVIEWS OF BOOKS.

The World and the Individual. Gifford Lectures, First Series: The Four Historical Conceptions of Being, by JOSIAH ROYCE, Ph.D., Professor of the History of Philosophy in Harvard University. New York, The Macmillan Co., 1900.—pp. xiv, 588.

If the book before us lacked other noteworthy characteristics, it would be remarkable for the simplicity and force with which it grasps a single conception and follows it through its various forms, using it as an instrument of both criticism and construction. Natural religion, the topic *ex officio* of a Gifford lecture, is interpreted from the standpoint of the 'nature of things' or ontology. The aim is so to define Being as to arrive at some conception of what is meant by the reality of God, and of the world and the human individual in relation to God. The originality of which I have spoken does not consist in this fact, nor yet in just taking the epistemological road towards Being. These things, as Professor Royce recognizes, are familiar enough. It is the special way in which the nature of the cognitive idea and its relation to Being are handled, the attempt to center the whole discussion about the nature of the idea as such, that give the book force and freshness, and that challenge the reader to raise the problems anew for himself, to reëxamine his own conceptions, and modify his own method, even if at the end he, like the present writer, finds himself forced to dissent.

We are to start with the world as idea and not as fact. If we start from the world as fact, we are "sunk deep in an ocean of mysteries"; for it is a "defiant mystery." It bewilders, angers, and baffles us in its contrast of order and chaos, its combination of goodness and cruelty. Because this world of fact is persistently baffling, we turn to the world of idea to get the key to unlock it. We find that the defect of the world of fact "is due at bottom simply to the fault of our human type of consciousness" (p. 18). So we must devote ourselves to a criticism of the latter. By this criticism we may purify it; we may raise it to a higher level and thus win insight into reality. This mode of approach at once compels the definition of an idea, and at least a preliminary conception of its relation to reality.

In defining idea, Mr. Royce starts from the familiar conception of recent psychology which views the ideational life from the standpoint

of organism and environment, and thus connects it with the motor or behavior side of experience. An idea of a thing "always involves a consciousness of how you propose to act towards the thing of which you have an idea." Mr. Stout's remark that an idea is a plan of action, or way of constructing an object, is quoted with approval. The idea thus represents a sort of will or active meaning. It is an intention. Or, in the more technical definition, it is "any state of consciousness, whether simple or complex, which, when present, is then and there viewed as at least the partial expression or embodiment of a single conscious purpose" (p. 22). For example, in singing a melody we are conscious that this act partially fulfils and embodies a purpose; as such it constitutes a musical idea. The purpose, so far as embodied, constitutes the internal meaning of the idea.

But finite ideas always appear to have a meaning not exhausted in what is present as internal meaning, or fulfilment of purpose. They at least seem to refer beyond themselves, to objects. This secondary and problematic aspect we may call their apparent *external* meaning. The melody, for example, may be regarded not simply as the fulfilment of the musical purpose, but as meaning, attempting to copy or corresponding to, a certain theme of Beethoven. Indeed, in all our cognitive experience this external meaning *appears* to be fundamental. In knowing, "our ideas seem destined to perform a task which is externally set for them by the real world" (p. 28). Common sense would say that this reference of ideas to facts wholly apart from themselves, and the necessity of correspondence to these external facts in order to secure truth for ideas, is the important thing; and that the mere inner meaning, uncontrolled by such reference, is either just fancy or else a positive source of error. Yet there are reasons for doubting whether the contrast is as ultimate as it seems. In a certain sense the idea must have the primacy. Unless the idea has a meaning, a purpose of its own in relation to the object, unless it assigns its own special task of correspondence, there can be no question of the supposedly external object which is to serve as standard or model; there will be no telling what fact is to be used as basis for judging successful correspondence. The truth, for example, of the meaning that I put into my idea of a cow (so we may paraphrase Professor Royce), cannot be told by sheer reference to *any* object—to object as such; we must first find what object the idea itself means; what is the task of reference and correspondence that it sets for itself—what itself *means* or *intends*. Admitting, then, that we must go to an object, it is to an object selected and determined by the idea itself.

It is this conception that gives unity and characteristic originality to Professor Royce's discussion. It leads him in the end to declare that the whole external meaning, the reference to objects, must be interpreted in terms of the inner purpose of the idea itself. It leads to the interpretation of the apparent external meaning—the dependence upon external things—as in truth only an instrument of the adequate expression and development of a meaning partially fulfilled in the idea itself. It leads, that is, to the proposition that the whole distinction between inner and outer meaning, between the significance that an idea has as an idea, and that which it has as dependent upon an external object, is due to the difference between a partial and a complete embodiment of a purpose. The defect of our "present human form of momentary consciousness, lies in the fact that we just now do not know precisely what we mean" (p. 39). Our ideas, in other words, express our purposes only vaguely, abstractly, without determination—or, as it is afterwards put—they are mere universals. Hence our discontent with our ideas; hence our search for an 'Other,' for the object which, though appearing to be external to the idea, in reality is just the supplementation necessary to give complete fulfilment to the purpose only partially presented in the idea. This completeness of determination of meaning is the individual. Complete will, complete meaning, complete individuality (p. 40), are thus the 'limits' of the development of all ideas. Here we get, in outline, the answer to the question, What is reality? "To be, means simply to express, to embody the complete internal meaning of a certain absolute system of ideas—a system moreover which is genuinely implied in the true internal meaning or purpose of every finite idea, however fragmentary" (p. 36; see also p. 341).

Thus far the discrepancy of external meaning from internal has been treated as problematic only, as due to the abstract reflection of the critic, (*e. g.*, p. 33). In discussing the root ideas that differentiate the various systems of ontology, Professor Royce appears however to indicate that, *for the finite consciousness as finite*, the discrepancy is inherent and necessary. "Experience comes to us, in part, as brute fact . . . merely immediate experience . . . apart from definition, articulation, and in general from any insight into its relationships." But experience "in addition to its mere presence possesses meaning" (pp. 55–56). On this side, we have ideas. These two aspects are at war with each other. The brute, immediate facts are obstacles obdurate to our ideas. There is "endless finite conflict of mere experience and mere idea." So far as the ideas attempt to comprehend,

to master the data in terms of themselves, there is thought. This is the collection of ideas contrasted with fact and yet trying to possess fact. So far as successful, we get an immediate experience luminous with meaning.

Four fundamental ontological conceptions arise as typically different modes of interpreting the relative significance of these two factors, fact and idea, immediacy and thought. The first, technically speaking, is realism, it emphasizes the external independence of the object, and defines reality from this point of view. Mysticism dwells upon that which is actually present in experience, the immediate, and hence defines reality as that in which all otherness is lost in immediacy, and all diversity is at an end. According to the third view, that of critical rationalism, the real is the object which gives truth or validity to our ideas: neither the idea nor the independent object is real, but an object of possible experience which would verify our idea (p. 61). The criticism of realism shows the necessity of defining Being as in essential relation to ideas; that of mysticism, the necessity of conceiving it as fulfilling, and not merely cancelling, the meaning of our fragmentary, finite experiences; while that of the 'Possibility of Experience' theory shows the necessity of conceiving validity and truth to be actually and individually experienced, not merely universally and abstractly possible. The development of these three necessities of interpreting Being, leads inevitably to the fourth, Professor Royce's own conception: viz, that Being is the eternal, exhaustive, determinate, and individual presentation in immediate experiences of the really possible meanings of all ideas—a *totum simul* in a living experience of immediate appreciation of all valid significances, the absolute consciousness. And since, in its individuality, it fulfils the real purpose and strength of all finite consciousnesses, it preserves and validates within itself finite wills and individualities.

Limits of space prevent an adequate exposition of Mr. Royce's statement and criticism of realism and mysticism. Mr. Royce's position, however, is so coherent, so sequential, that if I have been at all successful in reporting it above, even a brief summary will not be wholly meaningless. Strictly consistent or extreme realism asserts the entire independence of the object as regards ideas; it is totally unaffected by them; it is 'whether or no' they are. Hence the theory has really no way of defining Being except as that which is thus independent of ideas—*any* nature or content may be ascribed, and historically has been ascribed to it, provided only it remains wholly other than ideas. But, clearly, if its sole definition is to be independent of

ideas, ideas cannot refer to it, cannot have connection, relation or community as regards it; certainly cannot correspond with it. Hence it is, for us, a realm of nothing at all; moreover, since by the realistic hypothesis this Being was to furnish the standard for truth and falsity of ideas, there is no longer any possibility of discriminating true from false. All ideas equally exist, are "existent entities" on the same footing—the 'forgotten thesis' of realism (p. 134). Realism thus contradicts itself in the most thoroughgoing way.[1]

Mysticism realizes that the discrepancy of idea and fact, immediacy and object, is the source of all struggle, failure, and disquietude. It sees the utter impossibility of ending this conflict in terms of the mere 'other,' the independent Being of realism, since it sees not only the contradictory character of such a Being, but also that its apparent or illusory presence is the source of all our woe, intellectual and moral. Hence it seeks Being in the escape from, or destruction of such external being, in the selfhood of sheer immediate distinctionless feeling. Hence the self-contradiction of mysticism; since it can define Being only as the goal of our struggle, only as a 'contrast-effect,' and if the struggle, the finite ideas, are absolutely illusory, Being itself remains absolutely without content. It is a "zero which is contrasted with nothing . . . and thus remains a genuine and absolute nothing" (p. 181).[2]

In the statement and criticism of the 'Possibility of Experience' theory we enter, in effect, upon the exposition of Mr. Royce's own position, for he accepts it as true "as far as it goes," but holds that in order to retain the amount of truth which it possesses, it must be further developed. The transformation resulting from the required development gives his own conception of Being.

[1] It is only fair to say that in this condensation I have omitted reference to the nominally most characteristic feature of Professor Royce's discussion, namely, the consideration of Being as many or one. But, if I understand his argument, the above gives its *real* force; indeed, to be frank, the other phase of his argument seems to me to be either tautology, an elaborate reiteration of the fact that realism has no definition for its real except mere and complete independence of ideas, or else to be fallacious.

[2] Personally I have found the discussion of mysticism one of the most interesting and enlightening portions of the book. But doubts arise as to the logical conclusiveness of the criticism. Can it be said that mysticism defines Being in terms of *total* contrast with our 'finite' experience? Does it not rather define it exclusively in terms of *one phase* of our present experience—namely, the immediate phase—and insist, *not* upon the illusoriness of the whole 'finite' experience, but upon that of objects 'other than' this immediacy, and consequently upon the need of withdrawal from or negation of these externalities?

Even common sense is quite familiar with objects which obviously have Being only in relation to our ideas: it makes no difficulty, however, in ascribing objective reality to them. In this case objective reality clearly means *truth, validity*. Instances of such beings are the constitution of a state, social status, the commercial realm of credits and debts. Again, mathematical truths, the value of π, the fact that a function continuous within certain intervals need have no differential coefficients within those intervals; and, again, the moral order. In considering cases such as the reality of mathematical truths we come upon a most instructive characteristic. In one sense we seem here to be dealing merely with ideas or meanings, arbitrary constructions of our own definitions, having no necessity except to remain consistent with the intentions we ourselves embody in the definitions. But none the less it is a problem with the mathematician whether within his realm certain new (mathematical) objects may be found; he is liable to error in his assertions about such objects—as is illustrated in the case of the differential coefficient just alluded to, and, in general, he has to experiment, to produce, to wait and observe results, much as does the chemist or astronomer. Moreover, mathematical laws and results, originally quite independent of one another, finally often come together and reveal, in a fertile way, further quite new and unexpected truths—thus again simulating what happens in our knowledge of the physical world.

Philosophically it was Kant who first brought to consciousness the significance of reality as equivalent to validity, and generalized this conception as giving the clue to all Being—save, of course, to the things-in-themselves. He insisted that when we deal with objects other than our present ideas, we mean not objects independent of any knowledge, but *possible objects of experience*. Accordingly, the worth of ideas, the correspondence which they must possess, is decided, not by reference to Being independent of ideas, but by the determinate possibility of objects of experience which would make the ideas valid, true—such questions as arise with reference to the liquid or solid condition of the interior of the earth, the state of parts of the moon beyond direct observation, etc. The whole problem of Being is then one of the validity of ideas, not of the existence or nature of objects just other than ideas.

Mr. Royce, as already intimated, attributes worth to this conception "as far as it goes" (p. 251). He holds, however, that validity as such, or *mere* validity, is not valid; an idea must be immediately fulfilled to be completely or determinately true; it must be actually

experienced, in order to be really '*possible*.' The problem develops as follows: Validity, after all, is an ambiguous term (pp. 261 and 268). On one side, there is always some actual, present experience. Even in mathematics, one does not rely upon *mere* reasoning; one insists upon ability empirically to realize, in inner constructions, in observable symbols, diagrams, etc., the actual course of a certain development; and this, *a fortiori*, is true in what we would term physical truths. But, on the other hand, "the range of valid possible experience is viewed by me as infinitely more extended than my actual human experience" (p. 259). The mathematician goes straight on to assertions about an infinity of objects not actually present, but regarded as valid. Even empirically there are infinite valid possibilities about the commercial world which one does not immediately realize, which, indeed, one deliberately chooses not to realize, such as bankruptcy, bad investments.[1]

And so in the case of knowing a ship, unless it has for you, even as a merely valid object in the content of possible experience, more Being than you have ever directly verified, you would call it a figment of the imagination (p. 258). The second meaning of validity is, thus, that the realm of nature, of social life, of mathematical truth, has a character *not* tested, not exhaustively presented. To sum up: on one side is validity living, present in individual experience; on the other side, merely universal, formal, a mere general law. The first sense has the advantage of being given in experience, but the disadvantage of being only the 'creature of the instant,' a limited, fragmentary case. The second sense has the advantage of being eternal, infinite, exhaustive; but it is merely and only possible, not actual. What is the solution of the ambiguity? Clearly, a conception of Being is indicated in which the meaning of validity shall lose this ambiguity, in which the relative advantages of these one-sided conceptions shall be combined in a harmonious, exhaustive whole.

Since for reasons that will appear later, I cannot, without taking too much space, give an exposition apart from criticism of the method by which Mr. Royce moves on from 'Possibility of Experience' to an "individual life, present as a whole, . . . ; at once a system of facts, and the fulfilment of whatever purpose any finite idea, in so far

[1] It is not irreverent to say that in such cases we prefer the solid gains for ourselves, and prefer to leave the experiences of bankruptcy, etc., to God. Since they are "valid possibilities," the very point of Mr. Royce's argument is that they shall not remain *mere* possibilities, but be fulfilled. To deny their fulfilment in God would be to cut the nerve of the argument by which we pass from the third to the fourth conception.

as it is true to its own meaning, fragmentarily embodies . . . ; a life, which is the completed will, as well as the completed experience, corresponding to the will and experience of any one finite idea" (p. 341); I shall, at present, assume this step to be taken, and note the further characteristics of such Being.

In the first place, it solves for us the whole problem of the relation of inner and outer meaning. On one side, the object can have no essential character which is not predetermined by the purpose or meaning of the idea itself. The idea must *mean* the object; and it must also mean, must decide, the *kind* of correspondence that is required between itself and its object; for correspondence varies with the purpose in question, and if at times it demands copying or resemblance, at other times it does not; and even when it does, this is only because the idea itself set out to be just that kind of a copying idea. But since, on the other side, knowing requires effort, and since error is possible, the internal meaning *cannot* precisely predetermine the object, and external meaning is also necessary. The solution is in recognizing that our ideas are finite, fragmentary fulfilments of purpose. As *fulfilments* they predetermine their own objects; but, in so far as the idea is itself vague, abstract, indeterminate, it does not fully understand its own purpose, and to acquire completeness of meaning, individuality of purpose or will, has to hunt for its 'other.' But this is now seen to be no mere external 'other'; it is just that which is required to make an idea truly valid, that is, adequate, determinate (pp. 300–311, 320–335). Thus, real Being is just that being in which idea, inner meaning, and object, external meaning, no longer stand apart, but idea is an exhaustive individual, and object is meaningful.

In the second place, such Being is Unity. Any valid idea must be a consciously experienced fact. Therefore, even if we assume that finite forms of consciousness are sundered, this, as true, valid idea, implies that they are all present in a single consciousness which realizes them all, and the fact of their mutual exclusiveness. "What is, is present to the insight of a single Self-conscious Knower" (p. 400). This abstract logical statement is reënforced by considerations of the material and psychological unity of experience—the unity of the world as known, and of its empirical knower.

In the third place, this unity is not subversive of the multiplicity of finite consciousnesses. Every idea or meaning is a purpose; as such it is a will, or act of will; for, so far as rational, it already embodies, however fragmentarily, a purpose. The complete or perfect

reality can only be an exhaustive, an individualized, realization of these same meanings or wills. Every idea means or wills its own specific unique realization; and this is its individuality—its experience in such form that there can be no substitute for it.[1] Nothing can take its place. How then can the Absolute, which is precisely the complete realization of all purposes only partially fulfilled in us, do other than conserve and present all such wills, or individuals? The meaning of every life is unique, and uniquely maintained in the Absolute This is just what ethical common sense means by *activity*. You alone mean just this purpose: that is activity. You are yourself, that unique individual, in your meaning, your purpose: that is freedom (pp. 468, 469). Such, then, is in outline the final conception of Being.

I have said that to save time it would be found expedient to combine exposition and criticism as regards the exact steps by which Mr. Royce, through his criticism of 'the possible-experience' theory, passes on to his own. I now return to that point. So far as I can make out, the ambiguity which Mr. Royce attributes to the conception of validity, the contrast between actual, partial experience, and infinite, but merely possible experience, is not inherent in the theory criticised, but results from the fact that Mr. Royce himself gives two different, and quite inconsistent statements of it. If this ambiguity of his own be eliminated, his own theory may conceivably, of course, still be true, but so far as dependent upon the method by which it is arrived at, it falls to the ground.

What are these two differing statements? On the one hand, it is asserted that the theory is committed to "mere possibilities," "empirically valid general truths." It "consciously attempts to define the Real as explicitly and only the Universal" (pp. 240 and 241). Its realities are "merely more or less valid and permanent ideas" (p. 243). In defining possibilities of experience, it "tells you only of mere abstract universals" (p. 269). If we identify, as we must, the inner meaning with the universal, and the empirically experienced objects with the external meaning, then we can say that this theory regards "the antithesis of internal and of external as finally valid" (p. 288). It "leaves Reality too much a bare abstract universal" (p. 290). "All that is thus defined about the object is its mere *what*" (p. 357).

But upon other occasions we have it clearly enough stated that the validity of an idea is dependent upon an experience in which

[1] Lack of space compels me to omit the interesting discussion of individuality, even in an object, as dependent upon purpose or will.

that idea shall be empirically verified—in other words, that an idea, *qua* mere idea, cannot be valid. A valid idea, and a possible experience are not synonymous; but the possibility of sense-experience is the test by which the validity of an idea is determined. And, moreover, this possibility is so far from being a *mere* possibility that it must be *necessarily* connected with what is actually experienced, it must, indeed, be necessary to the true, integral meaning of the present experience. The whole point of the argument of Kant is that you cannot draw a line and say this is merely actual, and that merely possible. If the idea of the liquidity of the earth is valid, it is because there is somewhat, which is directly present to us as real, which demands this idea as a part of its *own* meaning. It is only a construction of the present; *and the present apart from such construction* is, in turn, meaningless. That such is the case is brought out in Mr. Royce's quotation from Kant (p. 237) when the test of the validity of an idea is its connection with "our *perceptions according to the principle of the empirical synthesis of phenomena*" (italics mine). And, again, when Professor Royce says (p. 245) that the only basis for the assertion of an unexperienced Being is that an experience of facts sends us beyond themselves, and to further possible experience for their own interpretation. Again, it is a matter of recognizing that our *present experience is interwoven* with the whole context of the realm of valid or of possible experience (p. 248, italics mine. See also bottom of p. 242 and top of p. 243;—on pp. 254–256, it is shown that even mathematical ideas to be valid require immediate presentation).

There can be no question which of these two views comes nearer to representing the true spirit of Kant. Indeed, one rubs one's eyes when one finds the "attempt to define the Real as explicitly and only the universal" associated with the name of Kant. That this view is the rationalism against which the Kant of *critical* rationalism asserted that thought in itself is empty, and can give only consistency, never validity, is of course obvious. Professor Royce confounds in his exposition three notions which Kant carefully distinguishes—and then uses this confusion not only to condemn the theory in question, but to furnish the terms of his own solution. These three notions are: (1) 'The real' (in its phenomenal sense, of course, which alone is considered by Mr. Royce). This is immediate sense determined by thought, by mediate conceptions:—so far is Kant, from defining the real as merely universal, merely possible. (2) 'The valid or true idea.' Here, of course, his entire point is that the true idea is not a mere idea, any more than it is the real. It differs from the real

in not being directly experienced; it differs from mere thought in that we have reason for assuming that there is a *possible* experience in which it would be directly presented in sense. (3) And thus there is 'possible experience'—that which tests the validity of an idea. It is neither, *qua* possible, the same as the real, nor is it the same as the valid idea. It is not definable in terms of ideas as such, because of its necessary connection with the content of immediate experience. (On p. 247 it is correctly stated: "Experience furnishes the ground for truth.") Mr. Royce, however, assumes that these three notions are synonymous.[1] Except in so far as he does this, he has no basis for contrasting validity as immediate but fragmentary, with validity as universal, ideal but infinite;[2] and no basis for his own positive conception of the really valid idea as itself a living experience. So far as he does this, it is not surprising that he concludes that "all validity, as an incomplete universal conception needs another to give it final meaning" (p. 341).

I am forced to conclude, then, that Mr. Royce's own theory, so far as developed as affording the needed completion of the 'validity' theory, rests upon an elaborate misinterpretation. Barely stated in this way the criticism is merely destructive. But what is enlightening is that precisely this oscillation is required *in order to give Mr. Royce's*

[1] Thus on p. 248 "experience as a whole" is identified with the "realm of truth," and both have a "valid constitution." The realms of 'valid' and of 'possible' experience are identified. On p. 259 we are told of "valid possible experience." In the first paragraph of p. 236 we deal with "objects of possible experience" (3) above; in the next paragraph with "experience as having a necessary constitution" (1) above; on the first paragraph of p. 239, it is a world of "valid empirical truth" (2) above. On p. 241, 'substances,' 'causes,' are instanced as cases of Kant's "empirical objects" (1), and these again are "empirically valid general truths!"

[2] There is no space to make the point good here, but I would ask the reader to go carefully over the discussion of the "universal and particular judgments" (pp. 274–290) and see if there is not exactly the same ambiguity in the treatment of these ideas. Sometimes the universal appears as the abstract, the possibility, the ideal construction, as reasoning which while not real, *i. e.*, presented in experience, is valuable as an instrument for reducing indeterminateness by eliminating possibilities (*e. g.*, pp. 277–279); while at other times it appears as our actual present immediate experience of ideas, so far as this is finite, incomplete, and, therefore, *itself* indeterminate, (*e. g.*, pp. 292, 295, and whenever the universal is identified with the 'inner meaning' which is really experienced, but which as 'finite,' 'fragmentary' needs an 'other'). And, of course, the particular goes through similar transformations. At one time the particular judgments are what "*positively assert Being* in the object viewed as external;" hence, of course, they come in to give concreteness to the mere abstract universal, or ideal construction. But so far as the 'universal' is our present but incomplete, inner meaning, the particulars appear as the ideal possibilities which, *if realized, would* give exhaustiveness or infinitude to our limited present meaning.

own conception its meaning. From one point of view, our starting point is no idea, nor universal: it is actual, immediate experience. But this has to be contrasted with universals, possibilities, in order to be condemned as finite and fragmentary, in order to suggest the contrast of an infinite or exhaustive. Now the other side comes into play; if these possibilities are merely universals, merely possibilities, while the conception of them would convict our present experience of a certain limitation, it would give no basis for the reality of an *infinite experience.* So the scene shifts. It is now our experience, which as such, is *only* universal, only abstract, only indeterminate; and, hence, what it is contrasted with (previously only possibilities, abstractions) becomes the actual, immediate, individual experience.

Professor Royce's argument is in this predicament. Unless he can find something good to say of ideas, and of our experience, there is no ground for defining the Absolute in terms of ideas, or as experience. Hence, at times he insists that, even with us, the truly valid idea is that which is presented in our immediate experience. This point of view comes out in its essential meaning on p. 422, when he says that it is "the wholeness and not the mere fragmentariness, the presence and not the mere absence of unity in our consciousness . . . which guides us towards a positive view of how the unity of Being is . . . attained." It finds expression again on p. 424, when we are told that as to the "general form of the absolute unity, our guide is inevitably the type of empirical unity present in our own passing consciousness." When this necessary homogeneity or community is in mind (required in order intelligibly to describe the Absolute as experience or consciousness at all), validity means present actual experience. *It must mean this for us, or it cannot mean it for the Absolute.* So we have the emphasis on the genuinely Kantian interpretation of reality. But, on the other hand, pretty radical discredit must be cast on our ideas, on our experience; for otherwise there is no ground for making the radical distinction between ourselves as fragmentary, finite, etc., and the infinite or 'completed' consciousness; otherwise we should end as well as begin with Kantianism, with experience as an organized system. Hence the necessity of conceiving our experiences, our ideas, which previously were defined as immediate realities or *presented* purposes, as mere meanings, indeterminate universals at large, and therefore requiring the infinite experience to fulfil them. The dialectic is this: (1) Our experiences are meanings, purposes fulfilled. Then, since reality cannot be conceived apart from experience, *the* reality—absolute reality—is meaning fulfilled. (2) But our purposes are only partially, inadequately,

merely universally or indeterminately, fulfilled. But since absolute reality is meaning fulfilled in experience, it must be exhaustively, eternally fulfilled. The Absolute experiences all at once, adequately and completely, that which we try to experience in pieces, in series and in distorted fashion. The gist of my criticism is that the argument depends upon taking propositions (1) and (2) alternately. They cannot be taken together without destroying each other. Insist upon (1) alone, and you get the system of experience as the Absolute; insist upon (2) alone, and you cannot get anywhere. Mr. Royce, I say it in no flippant spirit, blows hot and cold upon our 'finite' experience. When he wishes to establish the experienced, the significant character of his Absolute, it is good enough. But when he wishes to give an all embracing, single, exhaustive, *totum simul* character to his Absolute, our finite consciousness appears in a condition which logically would justify no conclusion, and which, practically, would not amount to enough even to suggest the problem of its own nature—mere vague universals, indeterminate possibilities and the like!

To put the matter somewhat more positively: If our experience justifies us in entertaining the idea of the Infinite, the Perfect, as valid, then we are not mere fragments or parts in that Infinite; it is in and through us, and in such an organic and pervasive way that the contrast between us and it, as the 'finite' over against the 'infinite,' the fragmentary over against the complete, the serial over against the *totum simul* is contradicted. If such be the case, we do not need a definition of the Absolute which makes it the realization of everything we intend but cannot effect; everything we mean, but cannot express. What we need is a reconsideration of the facts of struggle, disappointment, change, consciousness of limitation, which will show *them*, as they actually are experienced *by us* (not by something called Absolute) to be significant, worthy, and helpful. On the contrary, if we are fragmentary and finite in such a way that our meanings and realizations are not presented in and to us, but only to and in the Absolute, what boots either the Absolute, or the struggle! Let us eat, drink and be merry—let us glean the satisfactions of our passing life, for as to serious meanings, only the Absolute knows what they mean; as to serious efforts, only the Absolute experiences their realization—and since he is Absolute, we cannot rob him of that in any case, nor will he grudge us such pleasures as we can snatch as we hurry along. Omar Khayyám knew such philosophy long ago.

Professor Royce has shown his capacity to be sceptical. He has declared that only through doubting does the truth appear. But the

category of the 'finite,' the 'fragmentary,' the 'flying moment,' he seems never to have questioned. It is the one positive, fixed datum. Upon it he builds his whole conception of real or absolute Being—and yet to build upon it at all, he has to combine with it qualities such as meaning, purpose, fulfilment, which contradict this rigid finitude and require its reinterpretation.

I need hardly say in closing that it is quite possible to disagree pretty fundamentally with an author's conclusions, because one is not convinced as to his method, and yet recognize the scope and power of his work, and admire, to the point of envy, his skill in managing the course of his ideas and in presenting them to the reader. The book before us, together with its author's *Conception of God*, can be compared only with Mr. Bradley's *Appearance and Reality* in recent metaphysical thought. I should regret, even more than I do, the limitations which have confined me to the bare skeleton of Mr. Royce's argument, were it not that its many admirable traits are so obvious that they cannot fail to secure recognition from any competent reader. Meantime the serious effort critically to face Mr. Royce's method is the tribute—the highest of all tributes, it seems to me—which the importance of his work exacts.

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Kritik der wissenschaftlichen Erkenntnis. Eine vorurteilsfreie Weltanschauung. Von Dr. HEINRICH V. SCHOELER. Leipzig, Verlag von Wilhelm Engelmann, 1898.—pp. viii, 678.

This work was prompted by a serious motive. Twenty years ago the author was one of a group of young men who were enthusiastically devoting themselves at a European university to science and medicine. One, a near friend, had given up wealth and home and friends for science, and had undermined his health by study. As his weakness advanced he impressed upon the author the intellectual disappointment which science had in store for its devotees. When the young man died, Dr. v. Schoeler laid upon himself the task of subjecting the results of science to a searching critique, as free as possible from partisan prejudices, in order to determine how far research has been able to solve the problems of knowledge. This task has occupied the greater part of the time since the event above mentioned, and has led the author into a deep and broad study of both science and philosophy. Nothing in the work is more impressive than the abounding evidence of the tremendous mass of learning

upon which it rests. The discussions range widely over the entire realm of knowledge, but are particularly searching in the fields of philosophy, psychology, biology, physics, chemistry, and medicine.

Dr. v. Schoeler regards his work as the completion, in an inductive way, of the Kantian critique of reason, bringing empirical evidence for the correctness of Kant's theoretical conclusions. It shows that the main problems of science remain in their essence unsolved, and that, in this respect, natural science has succeeded no better than philosophy. The Kantian agnosticism is deep-reaching with our author, and excludes not only metaphysical construction, but also that more shallow rationalism so often found among scientific students. He wishes to destroy the delusion by which the majority of uncritical scientists believe that science has really explained the dark puzzles of the cosmic process, while he also sets forth the great achievements which science has actually performed. As against the bankrupt culture of the understanding, characteristic of the passing century, he wishes to aid in establishing the coming civilization of the heart and of regard for men; he aims to found this, however, not upon a religious and mystical basis, but upon the clear principle of spiritual, social, and intellectual freedom. And still Dr. v. Schoeler is not hostile to science in itself, when the latter confines itself within the limits outlined by philosophical criticism. His training, instincts, and sympathies are strongly scientific, and constantly throughout the work they determine in this interest his conclusions upon important questions.

The work begins with a discussion of the fundamental concepts of philosophy, such as matter, force, motion, cause, purpose, and consciousness. After the hundred and twenty pages so occupied, follow one hundred devoted to the criticism, in the agnostic interest, of various modern philosophical systems, especially those of Spinoza, Schelling, Fichte, Hegel, and Schopenhauer. Turning now to the natural sciences, two hundred and fifty pages are used in pointing out, with great fulness of detail and wealth of illustration, how much has been made clear and how much lies in darkness in the treatment of the fundamental problems of science. This section is more interesting and important than any other, because of the author's thorough scientific knowledge, and his ability to translate speculative principles and problems into concrete terms. Although his aim is to humiliate the pretensions of uncritical science, he feels himself working shoulder to shoulder with our best critical investigators, and shows a freedom from bias, and a constructive power in digesting the most modern scientific results, which go far to justify his rather pretentious sub-title. The last division

gives two hundred pages to the discussion of religion, humanity, ethical and æsthetical ideals.

The critique of the conceptions of being, negativity, and world-process, brings the author to the conclusion that reality is a dynamical principle, which by nature strives for something which it as yet is not. Reality, then, is most fully expressed by Will, and the philosophy of Schopenhauer has most nearly spoken the truth. This sympathy with Schopenhauer is prominent throughout the entire work, because both writers are fighting rationalism in the interest of voluntarism. With our author, however, it is checked by two considerations. In the first place, the Kantian doctrine of the unknown thing-in-itself, to which Dr. v. Schoeler professes the most sincere loyalty, points out that we can never know that Will. It can never be used, therefore, as ground for any real explanation of the actual world-order. And, in the second place, Schopenhauer is wrong in regarding this ultimate Will as blind and irrational. It must at least contain in germ the anticipation of all the spiritual and rational capabilities of nature. Even as a subjective psychical function, will cannot be conceived without conscious cognition, and as an absolute principle it must be the source of the intelligent spirit. Our author indorses here the criticisms of Frohschammer. In fact, although both Kantian agnosticism and voluntaristic sympathies are urging the writer to oppose rationalistic idealism, he retains too much enthusiasm for human ideals to accept a complete irrationalism. It seems to me, however, that he does not do justice to the idealistic element which he retains; that, if he had properly worked out its implications, his conclusions with regard to the principle of teleology and the philosophy of religion would have been different. Regarding teleology, however, he rules that even an immanent purpose is an inconceivable and empty principle; for if it proceeds throughout according to law and unchanging order it would be no longer the realization of purpose, "since the natural necessitation of such a cosmical evolution would obviously exclude all struggle toward ends." The teleological judgment, therefore, is purely subjective. In a subsequent discussion, however, he agrees with Aristotle that the whole is logically prior to the parts, and uses this principle to revise the mechanical world-view in the interest of something very closely resembling design. But the teleological implication is not fully admitted. His conclusions regarding religion are unexpectedly hostile. Convinced, however, that all forms of pantheism are really atheism, while pantheism alone can result from the conception of the Absolute given by philosophy, he subjects the idea of God to

a criticism similar to that of Kant. It proves to be, then, a purely regulative idea, having no objective truth. Least of all is it the ground of moral perfection and of the higher ideals of man. This last point, the very basis of philosophical theism, is not discussed by Dr. v. Schoeler, who simply contents himself with the above ruling. The value of human ideals, then, rests upon the primacy, autonomy, and absolute authority of the will. The ideals of morals and of art seem to the author to have an absolute worth, so that they lift man out of the poor condition of ordinary life, affording a satisfaction which is more than worldly, and yet is true and defensible. This is the only true happiness which is open to man—the service of culture and of morals. But it is sufficient. Only culture must not be allowed to degenerate into a rationalistic Philistinism. As a corrective to this the author champions warmly the claims of Art.

The chapter in which the author discusses the problem of the soul deserves somewhat extended comment. This discussion forms part of the critique of scientific concepts, since it is approached from the standpoints of psychology and physiology. Its chief interest, however, lies in the manner in which the established results of brain physiology and anatomy are interpreted to support a voluntaristic view of mind, and, therefore, to second the general attack upon the pretensions of the intellect. Dr. v. Schoeler calls attention to the biological importance of the lower brain centers, and contrasts these with the cerebral cortex, which seems far less necessary to life. The medulla contains the origin of some of the most important cranial nerves, and must be regarded as the proper center of the organic life. It governs the most important organs of the body, and its destruction brings instant death. Respiration, the beating of the heart, the circulation of the blood, chewing, swallowing, laughing, crying, and the organic demand for food, drink, and oxygen, depend upon the medulla. In particular, the *formatio reticularis* is a place of coördination for all movements, contains innervation centers for respiration and heart movement, and is therefore of vital importance. It contains the largest nerve cells anywhere found. The cerebellum is of relatively little significance, but the pons, although small in lower animals, becomes in man a turgid and highly organized gray mass, destruction of which leads to instant death. The author regards it as probably devoted to taking up and working over the sense stimuli from the skin and joints. Higher up are the dense gray masses of the corpora quadrigemina and the so-called optic thalami. The former have both sensory and motor connections with vision, the latter are not thoroughly understood, but

probably contain centers for involuntary and instinctive motions. The cerebral cortex has usually been regarded as the sole organ of will, sensation, and consciousness, and in an especial sense the instrument of the soul. It has been shown, however, that the total removal of the cerebrum does not endanger life among animals as high as the dog. Animals whose hemispheres have been extirpated still have will, for they exhibit voluntary movements. They have sensation, and, indeed, are in full possession of the sensory function. They react to impressions, guard against things that hurt, try to escape, avoid obstacles; in short, seem to act with conscious deliberation. We can no longer, then, regard the psychical process as the exclusive function of the cerebrum. Remove the cerebrum and phenomena of conscious life remain. Remove the medulla or lower centers and the animal dies at least within an hour.

All this is well known, and I note it only to show the way in which the author leads up to his own construction. In a paragraph on page 302 he says: "By *soul* we understand the principle of life itself, as it first comes to expression in the activity of the elementary cells. To this organic beings owe their origin, since their organisms are built up and unfolded by biogenetic processes of a chemico-physical nature ruled and guided by the impulse of life. We see this principle of life, which in the lower grades of the organic world comes to light only in primitive motor processes and simple phenomena of reaction, gradually develop out of itself, as the complexity of structure of the organism advances, the psychical phenomena of sensation and consciousness. But the basis of these higher phenomena of life is formed by the original vegetative life from which they spring. And to this central basis of life from which all the higher functions develop there corresponds in the case of higher animals the spinal cord, from the rich medullary substance of which the brain arises." So characterized, soul becomes essentially a biological concept, and is in fact identical with that view of the vital principle for which physiological vitalism has contended so stubbornly but unsuccessfully. The idea of consciousness is entirely eliminated from this conception of the soul. The only way to protect it from the fate which has overtaken physiological vitalism would be to urge that all matter, even the inorganic, is essentially psychical in this sense. In that case, the concept is no longer even biological. It takes the meaning that the reality of nature is identical with the poorest and least spiritual side of mind. In Schopenhauer's language, the world is will.

Another allusion, on page 304, to the derivative and secondary char-

acter of the cerebrum in comparison with the lower centers prepares the way for the inference that intellect is derivative and secondary in comparison with the more fundamental and instinctive actions of will. "From all these observations taken together, it clearly results that we do not exhaust the concept of the soul if, with modern psychology, we recognize in it only the intellectual principle, the central point of which is formed by consciousness. The nucleus of the concept of soul consists in that living energy which is necessary to make a body an animal, a living organism." Now it is very probable that we do not exhaust the concept of the soul; and if by the intellectual principle we mean discursive reason, few would contend that it forms the basis of the psychical life. But if we understand by reason that most intimate consciousness which makes us aware of the deepest ideals of the intellectual, moral, and spiritual life, then idealism is concerned to show that reason is not derivative and secondary, leaving the primary place to a will not thus endowed. And against intellectualism in this sense the author's physiological argument is not valid. For in dealing with a process of growth or development, it is not open to us to assume that the earlier, simpler, and lower stages are the truth, while everything later and higher is "secondary and derived." The true meaning of the process can be judged only from its highest and most perfect result. In the philosophy of evolution we have no right to level down, we must level up. Is man essentially a 'social animal,' adapted to civilization and culture? Historically he is not so. Man is a savage and culture would seem a thin veneer. It is only if we find that in the most healthy, normal, and perfect specimens of the race the ideals of civilization and culture take a firm hold upon the heart and will, that we can regard man as truly social in his essential nature. The whole attempt, then, by physiological arguments to level man's soul life down to the basis of blind impulse rests upon an erroneous assumption concerning the 'primary' and 'secondary' in evolution. In truth, Aristotle and Leibniz are here too strong for Schopenhauer. Dr. v. Schoeler, however, would hardly follow to its legitimate conclusion the Schopenhauerian movement, upon which he has here started, for he wishes to regard the will as the source of ideals having an absolute authority. But to make that possible he must refrain from completely divorcing reason from will.

From this account it follows that the work, although valuable, will be to many disappointing. It shares the weaknesses of the Kantian philosophy, especially as regards the opposition of the unknown thing-in-itself to the phenomenon, and the opposition of understanding to

reason, to the disparagement of the latter. Formally a critical argument against the scientific ideal, it denies also the validity of religion, and trusts to the unaided moral consciousness, and to art, for the regeneration of humanity. The work wants unity, since throughout its seven hundred pages it is engaged chiefly with problems in detail rather than with unifying principles. One notes also a tendency, everywhere present, to bring in irrelevant matter, apparently for no other reason than to show that these things also are known to the author. The impression of wide scholarship is intensified by the constant citation of author, title, and page, and the number of books so cited would make a large and well-selected library both in philosophy and science. At the same time the reader cannot be sure that the scholarship is so deep and thorough in philosophy as might be hoped. The treatment of the Hegelian system, especially, raises the question whether the writer has ever quite penetrated to the heart of it. I judge this criticism to be less pertinent from the standpoint of science.

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Elements of the Science of Religion: Part II, Ontological. By C. P. TIELE, Vol. II. New York, Charles Scribner's Sons.—pp. viii, 286.

In the first volume of his Gifford lectures Professor Tiele reviewed the history of religion in order to show the stages and directions of its development, the tendencies it exhibits, and the real character of the development itself. In the second volume he has undertaken to discover the nature of religion, its psychological basis and its origin. The term 'ontological' which he applies to this part of his work is misleading, for it leads the reader to expect a discussion of the philosophical foundations of religion, while, in fact, the discussion is purely psychological. But we need not quarrel with the author on that account, for he has given us an able and interesting discussion, albeit many of his readers will dissent from some of his doctrines. The work, though a translation from the Dutch, is in clear and fluent English, and is marked by candor of spirit and dignity of style.

Professor Tiele begins with a chapter on the manifestations and constituents of religion, in which he warns us not to mistake the words and deeds, whether ritualistic or otherwise, in which religion manifests itself, for religion itself. Religion, he maintains, is purely subjective, its constituents being emotion, conception, and sentiment, which arise in the mind in the order stated. "Every living religion that bears fruit in human life—that is, every religion rooted in faith—begins with

emotion, whether produced by teaching and preaching, or by our own contemplation of nature around us, or by our wrestling with it and with our lot in life" (p. 25). The emotion, which thus lies at the basis of religion, leads to the formation of religious conceptions, "and next, produced by such a conception and awakened by emotion, there arises a definite sentiment, the direction of the will which impels to action" (p. 18). What he means by 'emotion' I cannot quite make out, nor can I accept his definition of 'sentiment' as the direction of the will which impels to action; but he is very positive in holding that religion begins with emotion without a previous conception. "Our conception of God," he says, "and of our relation to Him is very far from being unimportant, and we should do our utmost to purify and ennoble it. But however poetically beautiful or philosophically profound it may be, it possesses little religious value unless it proceeds from emotion and gives an impulse to the will" (p. 21). Now I agree with the author that religious conceptions are accompanied by emotion, and that they are of little value unless they influence the will, but how the emotion can exist without a previous conception I cannot understand. Professor Tiele himself says in one passage that "in the sphere of religion the emotion consists in the consciousness that we are in the power of a Being whom we revere as the highest, and to whom we feel attracted and related; it consists in the adoration which impels us to dedicate ourselves entirely to the adored object, yet also to possess it and to be in union with it" (p. 19). It is evident from this passage, as well as from others which might be quoted, that Professor Tiele uses the term 'emotion' in a very vague sense.

But let us inquire a little further into his views on the nature of religion and on its origin and foundation. He denies that religion consists in a theological creed, however pure and noble; that is, in philosophy or an application of philosophy to religious uses. He is equally opposed to the view that religion is to be identified with morality or with morality and creed combined; and he comes to the conclusion which, as he remarks, is nothing new, that the essence of religion is piety. In other words, religion is the adoration of beings whom the worshipper believes to be superhuman and divine, and, when fully developed, in the adoration of the one Infinite and Holy Being who rules over all. This being the essence of religion one would naturally suppose that every religion must begin with the conception of a divine being, and in some passages the author seems to maintain this view. Thus he says: "The starting-point is theology, for belief in one or more supernatural powers, in a God or a divine world, is the foundation on

which all religion rests. There can be no religion without a God" (p. 73). Referring to the atheism of Buddhism, he remarks that when it made its appearance as a religion it had Buddha for its God. A God, he thinks, as men have used the term, is a superhuman power. I should rather say a superhuman spirit, for men have never worshipped any merely physical power however great, and this is undoubtedly what the author means, for he elsewhere says: "That 'God is a Spirit' is in brief, the creed of man throughout all ages" (p. 103).

If, then, religion is the adoration of divine beings, or of the one Divine Being, the question immediately arises how men came to believe in the existence and power of such beings, and why they continue to entertain that belief at the present day. Professor Tiele disclaims any attempt to furnish a metaphysical basis for religion, and expressly states that the method of the science of religion is not metaphysical, but historical and psychological. But that science ought surely to tell us why, as an historical fact, men have universally believed in the existence of superhuman beings bearing some resemblance to man, and holding moral relations with him; yet this is precisely the point that Professor Tiele leaves most obscure. He devotes a whole chapter to the origin of religion, and, after discussing and rejecting some theories maintained by other writers, states his own; but I have found that chapter the most unsatisfactory in the whole book. He rejects the theory that the belief in causality is the basis of religion, maintaining that reasoning about causes can only give us science or philosophy, not religion; and he equally rejects the theory, advocated by Kant and others, that our consciousness of moral obligation leads us to the conception of a holy God from whom the moral law is derived. In summing up the discussion he says: "We have endeavored to discover the origin of religion, the actual fountainhead from which it springs, and we came to the conclusion that it is to be found in man's more or less unconscious sense of the Infinite within him, or of his participation in the Infinite" (p. 237). And elsewhere he says: "The Infinite, the Absolute, very Being, as opposed to continual becoming and perishing—or call it as you will—that is the principle which gives him constant unrest, because it dwells within him" (p. 228); and again: "The origin of religion consists in the fact that man *has* the Infinite within him, even before he is himself conscious of it, and whether he recognizes it or not" (p. 230). Well, if that is true, all that I can say is that I must be one of those benighted persons who are unconscious of the Infinite within them; for I have always been painfully conscious of my own finitude, and have always

thought that everything infinite was foreign to me and wholly beyond my reach.

The truth is there can be no religion worthy of the name without a rational foundation. Unless we have reason to believe in the existence of a Divine Being who rules over the universe, and is the embodiment of moral perfection, our religion is superstition, and our worship no better than folly. Professor Tiele, however, expressly denies that religion is based on reason, though he admits that reason has a place in the formation of religious creeds. Thus, after discussing the theories which trace the origin of religion to the causal intuition and the sense of duty, he says: "This last theory is also open to the objection that it makes religion the product of reasoning, whereas reasoning and reflection are always of later growth. . . . It may be quite true that religious persons explain these emotions by a process of reasoning; but they are religious first, and they reason afterwards" (p. 221). So also in his chapter on the conceptions of faith he adopts from other writers the doctrine that such conceptions are the product of imagination and remarks: "For my part, it has rather seemed to me a matter of surprise that so obvious and simple a truth should require any defense. It is just as axiomatic as the fact that we see with our eyes and hear with our ears" (p. 27). Elsewhere, indeed, he says that religious doctrine "rests on a metaphysical foundation, and, unless convinced of the reality of a supersensual world, it builds upon sand" (p. 62); but he gives us no clear idea of what it is that convinces him or other men of the reality of such a world.

Yet he is not insensible to the importance of creeds in religious life and in history; for he sees what evils have resulted from false creeds. The main constituents of a creed, he holds, are a doctrine regarding God, a doctrine regarding man's relation to God, and a doctrine regarding the means of establishing and maintaining communion with God. No religion is possible unless man feels that he is related to God, and men in all ages have used every means at their command for the purpose of expressing and maintaining that relation. Worship in all its forms is one of those means; the widespread belief in mediators between God and man is another. Worship, Professor Tiele thinks, is not the main thing in religion, it is only one of the manifestations of religion, enabling the believer to express his religious feelings and commune with his God. The most universal and most important element in worship is prayer, either as formal supplication or as spontaneous entreaty, and no religion is possible without it. "If the voice of prayer is dumb, religion itself is extinct." Sacrifice, the

author thinks, is an expression of man's desire to devote some of his possessions to the gods, and in its highest form is the devotion of oneself to the divine service. Professor Tiele lays much less stress than most men do on the moral side of religion, though he does not neglect it, and he regards religion as above all things a doctrine of salvation, a guide to a blessed life. "All religions," he says, "are religions of redemption, and all religious doctrine is a doctrine of salvation. This is one of the most striking, and at the same time most certain, results of our science" (p. 75). Religion, he admits, has often been shamefully perverted and degraded, and has led men to frightful excesses and crimes; but that is no objection to religion itself, though it shows the necessity of purifying our religion from all base elements. In discussing religion as a social phenomenon, the author shows the importance of the church as a religious institution. Most men require the sympathy and support of their fellows in their spiritual life, and this fact has always led, and will always lead, men of the same way of thinking about spiritual things to associate together for mutual edification and encouragement.

In his closing chapter Professor Tiele discusses the relation of religion to the other elements of man's spiritual life, such as philosophy, art, and morality. He dissents from the opinion of some writers that religion is the mother of civilization, and maintains that the other elements of civilization originated independently; but he recognizes the influence of religion upon those other elements, and their influence on religion. The present state of religious belief, or unbelief, and the conflict now raging between the traditional religion, on the one hand, and science and philosophy on the other, causes him some uneasiness. He sees and regrets that the nineteenth century is closing without that religious awakening which many men had hoped for; yet he has no fears that the present conflict of opinion will result in the extinction of religion, but believes that "it will rather lead to a fuller development of religious life, to a nobler revelation of the religious spirit"—an opinion with which I cordially agree.

JAMES B. PETERSON.

SUMMARIES OF ARTICLES.

[ABBREVIATIONS.—*Am. J. Ps.* = *American Journal of Psychology*; *Ar. f. G. Ph.* = *Archiv für Geschichte der Philosophie*; *Int. J. E.* = *International Journal of Ethics*; *Phil. Stud.* = *Philosophische Studien*; *Rev. Ph.* = *Revue Philosophique*; *R. I. d. Fil.* = *Rivista Italiana di Filosofia*; *V. f. w. Ph.* = *Vierteljahrschrift für wissenschaftliche Philosophie*; *Z. f. Ph.* = *Zeitschrift für Philosophie und philosophische Kritik*; *Z. f. Ps. u. Phys. d. Sinn.* = *Zeitschrift für Psychologie und Physiologie der Sinnesorgane*; *Phil. Jahr.* = *Philosophisches Jahrbuch*; *Rev. de Mét.* = *Revue de Mètaphysique et de Morale*; *Ar. f. sys. Ph.* = *Archiv für systematische Philosophie*.—Other titles are self-explanatory.]

LOGICAL AND METAPHYSICAL.

Philosophical Terminology. FERDINAND TÖNNIES (trans. by Mrs. B. Bosanquet). Mind, No. 31, pp. 289–332; No. 32, pp. 467–491; No. 33, pp. 46–61.

The author of this essay, which was awarded the Welby prize last year, investigates the nature of signs in general, and of words in particular, as a preliminary to the discussion of philosophical terminology. And as signs are manifestations of will, he makes a division and determination of the concept 'Will.' "We call an object *A* the sign of another object *B*, when the perception or recollection of *A* has the recollection of *B* for its regular and immediate consequence." Some signs are natural, some artificial. *Natural signs*: Here the sequence in thought is based upon the natural relation between sign (*A*) and thing signified (*B*). There may be an identity between the two, as when the perception or recollection of a thing recalls a former perception or recollection of it, or when the movements of the body are indicative of the mind. *Artificial signs*: Here there is no natural relation between sign and thing signified; the human mind alone produces the relation. Spoken and written languages are the chief instances of artificial signs. Yet artificial signs, especially in early stages of race-development, often grow out of natural. The natural signs, upon which linguistic sounds are based, are: (*a*) involuntary expressive movements of the vocal organs; (*b*) imitation of heard or familiar sounds; and (*c*) attempts, on the principles of analogy and contrast, to reproduce the impressions of objects. A thing may be a sign by the *fiat* of the individual will or of the social will. Only in the latter instance can it serve as a means of communication. This social will may express itself unconsciously in custom (agreement on meaning of words), or more consciously in legislation (as by an academy), or absolutely, in science (definition). Legislation usually delimits the meaning of terms already in use; science often coins words.

Much confusion has prevailed in scientific and philosophical terminology. After the beginning of the modern era two movements were at strife, the inductive and the mathematical. The latter was victorious and gave many new terms to the world. Physics and chemistry did not invent new concepts, but applied those furnished by mathematics. But there was contention within the domain of mathematics. Some maintained that the concepts of those who used the same terms were not the same, and, hence, that terms must be more rigorously defined. Others even held that names are given on the ground of defective knowledge; that language is metaphorical and uncertain. From such discussion arose two factions: those who held that between names and things there exists a natural and necessary bond (Realism); those who considered phenomena in their nameless isolation, and declared names to be arbitrary (Nominalism). The discovery of an architectural plan in nature was a victory for realism; but investigators in evolution have shown the continuity and gradual differentiation of species, and have thus supported nominalism. The victory rests with the latter—names *are* arbitrary. In philosophy proper, Christian Wolff and his immediate followers introduced the modern (post-scholastic) terminology, which their successors have ratified, extended, and confused. For, after Wolff, writers not only followed in his steps, but also branched off into side-paths. Terminology became confused, the confusion still persists. All the greatest men in this movement were opposed by the conservatism of the universities. This resulted in making the new terminology a nearer approximation to common speech than it would have been if the scholastic element had not been hostile. The literature of philosophy, as well as of science, became more popular in tone. But science crowded philosophy out of the schools. But recently, since it has chosen its new basis (science, both physical and mental), philosophy has been received with more favor.

How are we to remove the obscurity in terminology? Intellectual intercourse between nations emphasizes the difficulties of such tools as our present ill-defined terms. Moreover, it emphasizes the need of a common language for scientific and philosophical purposes. The tendency at present is towards a predominance of English. But *all* living languages shift meanings and are metaphorical. Probably the best we could do is this: adopt English for all spoken intercourse, and revive neo-Latin for all written learned communication. We might invent a system of concept representation which should be universal, but this could not wholly obviate the need of written words. The Latin is shaped for manifold and refined thought, is susceptible of indefinite expansion by adoption of Greek words, has gained the coolness and sobriety appropriate to reason, is non-figurative and settled. All this can best be promoted by an establishment which shall have at once the learning, the authority, and the prestige to impose innovations, viz, an international academy.

R. V. NYE.

Criteria of Truth and Error. HENRY SIDGWICK. Mind, No. 33, pp. 8–25.

The business of philosophy is to unify or systematize our common thought. But before this can be done, we need to be assured that our thoughts are true and valid. So we need some criteria for distinguishing truth from error. The fact of error is clearly seen in turning to the past and noticing the errors which Copernicus and others corrected. Thus the philosopher begins to think of the possible erroneousness of all beliefs. But this may be like Descartes's doubt, a mere stage in the progress toward a dogmatic system. This removal of philosophic uncertainty is the primary aim of epistemology. Certain beliefs in ordinary thought are considered indisputable. Some of these require proof, and seem to have obtained it, while others do not seem to require it. Logic provides criteria for the former, and it is our present task to inquire if there are criteria for the latter. Descartes's criterion was "that all the things which we very clearly and distinctly conceive are true." Kant, however, rejects such a criterion, regarding the logical criteria of formal truth as sufficient for all kinds of inference, whereas a general criterion for all kinds of truth cannot possibly be found. But his argument for this position fails. The criterion of empiricism is that truth adheres to the cognitions of particular facts, or, as Mill says, to whatever is a matter of direct observation as opposed to inference. Yet neither the Cartesian nor the empirical criterion covers the whole ground, as the former verifies only particular premises, and the latter only universal. Further, Descartes's criterion hardly satisfies his own requirements, as it is hard to say what he meant by the "clearness" of a notion. He, however, claims that it is intuitively known, and he has three ways of establishing it. Strangely, the rationalist bases his criterion partly on experience, while the empiricist, as we found, treated his as self-evident. The latter, however, has unwarrantably extended the judgment 'I am conscious' to that affirming that my present consciousness is such and such. Herbert Spencer has propounded a third criterion which he thinks is applicable to all cognitions, viz, 'the inconceivableness of the negation,' where inconceivable means 'intuitively incredible.' This is useful to some extent, but there are many difficulties in its application. He propounded it to defend realism against idealism, for he wishes to show that the denial of the non-ego, as something independent of the ego, is inconceivable. But his criterion is inadequate, and is scarcely more universal in its applicability than the two former criteria.

A. W. CRAWFORD.

Green's Refutation of Empiricism. HOWARD V. KNOX. Mind, No. 33, pp. 62–74.

Idealists generally do not define what they mean by 'difference' in their formula of thought as a "difference in identity." But this is just what we want to know, or: "How—if all relation is in and for thought—is

relation *to* thought possible?" or, what is *meant* by the identity of thought and reality? Green admits that the explanation he gives in §§ 66–67 of the *Prolegomena to Ethics* does not fully explain. In § 68 he virtually admits that the two moments of thought, as containing time and as contained in time, do not admit of a genuine synthesis. It is also difficult to distinguish the object 'communicated' from the subjective fancy, and another difficulty is that the object 'communicated' to us is never the object as it exists for the eternal consciousness. But, again, in saying that "the work of the mind is real," he gets into the difficulty that even a mistaken belief "has its own reality," thus making reality consist in successive states of consciousness. This really is a denial of the distinction between truth and error, and, accordingly, when he tries to distinguish these, he gets into confusion. The substance of his criticism of empiricism is found in his statement, that "no one and no number of a series of related events can be the consciousness of the series as related." But his arguments here go to empty the individual consciousness of its content. They amount to making an absolute difference between thought and its object, which, if applied to the eternal consciousness, would lead to hopeless difficulty. He further contends that knowledge of nature cannot be a "result of natural processes," on the ground that there is no "element of identity" between nature and knowledge, and that, not only our knowledge of nature, but nature itself is "impossible apart from the action of an intelligence." But this means only that nature is a result of intelligence, though his own conclusion is that nature in its totality is an eternal thought, and consequently empiricism is a *hysteron proteron*. His attempted proof of the non-temporal character of thought is a two-fold *ignoratio elenchi*. First, between eternity and *indivisibility of judgment*, and next between eternity and *continuity of consciousness*. This finds expression in an absolute distinction between succession of consciousness and consciousness of succession: and since the latter is the eternal consciousness, it is directly equivalent to an absolute distinction between the temporal consciousness and the eternal consciousness. Neither is nature the eternal consciousness. So instead of the identification of nature and of our thought with the divine consciousness, he has left the three in absolute distinction.

A. W. CRAWFORD.

Sens commun et philosophie. ALBERT SCHINZ. Rev. Ph., XVI, 1, pp. 53–73.

The article is practically a plea for philosophy which is so abused today, but of which man never had more need than now. The cause of this state of affairs is the condition of turmoil in which all the individual sciences find themselves; but yet this very divergence will help to pave the way for truth. Common sense in this regard cannot be appealed to, for it simply states but does not explain. It cannot solve real questions or become master of problems, although it calls itself the science anterior to phi-

losophy. Philosophy produces science in that it shows the necessity of it. The origins of both are identical in point of time, as is natural, since philosophy has for its task the solving of problems given by science. Philosophy sets science upon the right road, frees its path from all that hinders its progress; it examines the solutions offered by means of science to see that they are satisfactory; and from its independent position it overlooks all the separate sciences and coördinates them.

F. M. WINGER.

PSYCHOLOGICAL.

Zur Kritik tachistoskopischer Versuche. W. WUNDT. Phil. Stud., XV, 3, pp. 287–317.

Zur Erläuterung unserer tachistoskopischen Versuche. B. ERDMANN und R. DODGE. Z. f. Ps. u. Phys. d. Sinn., XXII, 4, pp. 241–267.

Wundt's criticism of the *Untersuchungen ueber das Lesen auf experimenteller Grundlage*, published by Erdmann and Dodge in 1898, and quite extensively noticed by psychologists since its first appearance, is perhaps the most severe judgment that has yet been passed upon the work. Erdmann and Dodge used in their experiments an apparatus for exposing words and letters during very brief intervals, which is technically known as a tachistoscope. It is against this tachistoscope that Wundt's criticism is principally directed. In the first place he enumerates six essential conditions which such an apparatus must fulfil: (1) The period of exposure must be brief enough to exclude the possibility of eye-movements; (2) it must be so adjusted that all objects in the neighborhood of the fixation-point can be seen with equal distinctness; (3) the illumination must be extended simultaneously to all parts of the field of vision—at least, the illumination of a single part of the field should undergo no noticeable change; (4) the conditions of retinal adaptation must be as favorable as possible, *i. e.*, sudden changes in brightness are to be guarded against; (5) a persistence of the retinal excitation must be avoided; (6) the period of illumination or exposure must be brief enough to exclude an alternation of the attention from one part of the field to another. In the construction of their apparatus, Erdmann and Dodge have satisfied the first three of these requirements, but have paid no attention to the last three. Upon the basis of these requirements, Wundt defends the fall-tachistoscope used by Cattell, and, from the same standpoint, considers other similar instruments, especially those used by Volkmann and Helmholtz. As positive advantages which the tachistoscope of Erdmann and Dodge possesses over the older forms, Wundt enumerates three: (1) the simultaneous exposure and illumination of all parts of the field; (2) the possibility of using different periods of exposure; (3) the illumination of the field during the pauses in the experiments. These advantages, however, are not unalloyed: (1) the presence of after-images makes it a matter of little importance whether all parts of

the field are simultaneously illuminated or not; (2) the second advantage was not utilized by the authors; (3) there was still a brightness difference between the exposure-illumination and the interval-illumination sufficient to cause disturbances in retinal adaptation. Three positive disadvantages are to be noted: (1) the above disturbances in adaptation which are necessarily involved in the rapid alternation of the illumination; (2) the persistences of the retinal excitation; (3) the alternations of the attention which are necessarily involved in the perception of an extensive object of vision.

Erdmann and Dodge in their reply to Wundt's critique, assert that the latter has limited himself to a criticism of apparatus, without going into the details of method which led to the construction of such apparatus. They summarize his arguments under two propositions: (1) the alternation of the brightnesses of the primary field of vision, and of the field of exposure, must lead to alternations of the attention, and to disturbances of adaptation, either of which invalidate the experiment; (2) the retinal image of the object exposed lasts sufficiently long after the completion of the exposure to render computations based upon the exposure-time practically without meaning. In answer to these arguments, the authors deny that the difference in the two illuminations is great enough to exercise the influence ascribed to it by Wundt. It is less, they maintain, than is involved in the tachistoscope used by Lange and Cattell, or in other similar instruments. In any case, alternations in the brightness of the field are necessarily present in the reading of ordinary print, and an experiment which is to investigate such reading cannot arbitrarily exclude a constant factor. But the disturbances of adaptation which Wundt cites as a result of this difference of illumination are inferred by him from preceding experiments, which, Erdmann and Dodge maintain, are not at all analogous to theirs. They assert that their apparatus was not primarily designed to exclude such a condition as the alternation of attention, but to analyze the pauses that are begun and completed in the process of reading. These pauses are considerably longer than the sum of the exposure-time and the time during which the retinal excitation persists. Evidently alternations of attention are not disturbing factors in normal reading: if they were it would not be so difficult to eliminate them under experimental conditions.

W. C. BAGLEY.

Psychology and Social Practice. JOHN DEWEY. Psych. Rev., VII, 2, pp. 105–125.

The more comprehensive problem, "Psychology and Social Practice," is approached through one of its special cases—the relation of psychology to education. The chief question is whether the standpoint of psychology, as a study of mechanism, is indifferent and opposed to the demands of education. Teachers to-day have a psychological creed. In fact, educational reforms meet their greatest obstacle in two false assumptions: (1) of a difference between child and adult psychology, where, in reality,

identity reigns ; (2) of likeness where marked difference is the most important feature for educational purposes. Their hold upon these assumptions is so fixed that it is impossible to shake them off in any fundamental way, except as individual instructors appreciate the true psychology of the case. The specific reason for believing that psychology—the ability to transform a living personality into an objective mechanism for the time being—is an organic necessity for the teacher is found in the principles of the teacher's own activities. He is dealing with psychical factors that are concerned with the furtherance of certain habits and the inhibition of others. All the instruments and materials of instruction must be regarded as psychical stimuli. Hence he must possess the power to see what is in the child as a psychical mechanism, and then to transmute materials and instruments into their working psychical equivalents. The writer tries to show that psychology is useful to education just because of its statement of personal aims and social relations in terms of mechanism. From this type case Professor Dewey passes to the larger question—the relation of psychology to social practice. When we apply an ethical standard to the consideration of social institutions, they, like our schools, stand as organs for the increase of the realized values of life. In both cases the statement of the mechanism through which the ethical ends are realized is required, and it is at this point that psychology serves us directly. As long as moral ideals are derived from custom, so long will they be realized through custom. But, when the values come to consciousness, then the machinery by which ethical ideals are projected come to consciousness also. Psychology, as the statement of the mechanism of the workings of personality, is the only alternative to an arbitrary view of society. In order to save personality in all, the achievements of all must be stated in terms of mechanism.

L. M. ALDRICH.

The Criterion of Sensation. GEORGE STUART FULLERTON. Psych. Rev., VII, 2, pp. 159–171.

This paper, which was presented before the New Haven meeting of the Psychological Association, is introduced by a re-statement of certain arguments given in a paper read by Professor Fullerton at a former meeting of the same association. There he maintained that the inconsistency involved in the tacit assumption of the doctrine of representative perception, need not lessen the value of the psychologist's work. Psychology, as a natural science, implies assumptions, and it is the work of the epistemologist to eliminate any contradiction. That earlier view of the relation of the work of the psychologist to that of the epistemologist is here illustrated by a discussion of sensations and their criterion. It is shown that the psychologist's criterion of sensation, the reference to the peripheral nervous system, cannot be regarded as ultimate, save for convenience of discussion within a certain limited field of investigation ; that its justification must be sought in episte-

mology; and that the contradiction shown to exist in the psychological standpoint is harmless just because it is a contradiction to the psychologist alone, and not to one who carefully analyzes his concepts, and comprehends clearly the use which he makes of them. It is maintained that the assumption that the psychologist directly perceives the world of material things, and knows immediately that he is dealing with such, when he makes his experiments upon a human body, was, after all, only a tacit assumption. It is shown also, that the psychologist must adhere faithfully to the doctrine of representative perception, which has not been framed arbitrarily, as its usefulness testifies. To eliminate the contradiction in the psychologist's assumption that he does and at the same time does not immediately perceive things, by denying the doctrine of representative perception, can only result in hopeless confusion. The contradiction can be eliminated only by recognizing that percept and thing perceived are but two ways of regarding the same complex in consciousness. But the elimination of the inconsistency in the psychological standpoint is the work of the epistemologist, not of the psychologist. L. M. ALDRICH.

Perception of Change and Duration. G. F. STOUT. Mind, No. 33, pp. 1–7.

The question is: When we perceive a temporal process as such, how far, and in what sense is it necessary that representations of prior parts of the time-series, should be present to our consciousness in the perception of succeeding parts? Such writers as T. H. Green and Shadworth Hodgson say that the presentations of prior stages must be present in later stages. The problem has been much discussed in Germany. Schumann denies the necessity of memory images, holding that all we require is an after-effect of a physiological or psychical disposition. Professor Meinong takes the other side, admitting, however, that introspection gives him no support, but basing his argument on a supposed *a priori* necessity for *some sort* of apprehension of the terms related in order to apprehend a relation. But the writer argues that traces of physiological or psychical dispositions, and not memory-images, are all that is necessary. The effect produced by preceding notes in a succession must be capable of functioning instead of them, for certain purposes. If, after the last note in a succession, we begin to hear it anew, or to reproduce it in memory, we must be able to recognize the successive determinations in detail, of what we had previously before our minds, as an internally indeterminate whole. He concludes by saying that introspection does not discover the memory-images, nor is the *a priori* argument sufficient to prove their existence, but that he is convinced that he can detect their absence. A. W. CRAWFORD.

Münstersberg's Versuch einer erkenntnistheoretischen Begründung der Psychologie. JONAS COHN. V. f. w. Ph., XXIV, 1, pp. 1–22.

In the attempt to establish a basis for psychology, the relation of psy-

chology to physics is necessarily of determining importance. This relation Münsterberg discusses in connection with the logical distinction between description and explanation. Description means to communicate an object by communicating its elements. It therefore implies: (1) the possibility of analysis into elements; (2) the possibility of communicating the elements thus obtained. The first possibility is conceded by Münsterberg; the second he denies because psychical objects are accessible only to a single individual. Communication, therefore, must take place through connection with physical objects. Direct connection is possible only to perceptions, not to feelings. But, when Münsterberg refers "feeling tones" and other "characteristics" of sensation to centrifugal physiological processes, what assurance has he that others will be able to understand him, and make the distinction which he intends? Ultimately we can only indicate the conditions necessary in order to experience differences of this sort, and thus enable others to experience them for themselves. Furthermore, the connection between the physical object and sensation is not ideally complete. Description in this sense is impossible. Nor is Münsterberg's conception of explanation more adequate. We isolate a psychological object from the original unity of experience, he says, solely in order to make predictions regarding future events. Prediction is possible only on the basis of causal connection. We have explained a phenomenon when we have shown it to be necessarily related to a preceding fact. This necessity is lacking in so-called empirical laws; it exists only where the laws of mechanism prevail. Mechanism is not applicable to the psychical life, where the object is created anew at each act and disappears again. A direct and unambiguous connection, therefore, must be established between the psychical processes and some bodily processes, *i. e.*, the processes in the brain. For the psychologist the general assumption of a complete parallelism is sufficient. But this general assumption explains nothing. The special content of an empirical law does not gain in validity by being related in an abstract and general way to a physiological process of which we only know *a priori* that it is subject to mechanical laws. Explanation in psychology differs simply in the fact that a result need not belong to the same kind of connections as its conditions. Psychical events do not form a closed system, and for this reason certain changes can be explained only by reference to the entire organism. It is in this necessary imperfection of psychology that we find the significance of psycho-physical parallelism. This hypothesis makes it possible, when the limits of psychological explanation have been reached, to draw upon the results of physiology. Parallelism is simply a working theory, and, as such, is the more useful according as we know more about nerve and brain functions. Münsterberg's work is an attempt to establish a basis for psycho-physical parallelism, an attempt made in the form of an epistemological investigation. He fails because he is too completely guided by the example of mechanism, but the attempt is nevertheless of great value and significance.

BOYD BODE.

A Defence of Phenomenalism in Psychology. F. H. BRADLEY. Mind, No. 33, pp. 26–45.

Phenomenalism means the confinement of one's attention to events as experienced with their laws of co-existence and sequence. This is really what is done in practice by most psychologists. To this, however, objections are raised, and to deal with these is the purpose of this article. This view destroys the unity of the soul and confines it to present experience. No, for its history is still one, and the past still belongs to it. It leaves out ideas and judgments about objects and the unanalyzable element in every event. No, for these as experienced are events. Your events are abstractions, and your laws fictions. No more so than the materials of every separate science that stops short of metaphysics. Psychology is not a limited science, as nothing falls outside the mind, and mere phenomenal laws will not explain. But a special science does not have a special compartment, but merely studies with a limited end and in a limited way, and anything outside this is useless. There are also two further objections based on a misunderstanding of 'phenomena.' (1) Mere phenomena are quite discrete, and lack all continuity. No, for experience is a whole with certain aspects, which are legitimate abstractions, but not discrete reals. (2) Phenomena are mere objects, but the life of the self, its activity, and its pleasures and pains, cannot be resolved into objects and their laws. But this is contrary to fact, for we are aware of pleasure and pain, and pleasure can be made an object. Neither is the view of the objection workable, for it leaves the self out of experience, only to leave us aware of it in self-consciousness, where it is equally inexplicable. An illustration of this is found in Professor Andrew Seth's late work, *Man's Place in the Cosmos.* To take up a question that has already been raised: Do we have ideas of pleasure and pain? It is held that we do not, but only of that which was pleasant. This view cannot account for the fact that the thought of a past pleasure may be itself pleasant or painful, while yet it remains a thought of past pleasure. Further, it would require a lapse of time between ideas of the pleasant experience which is recalled, and the quality of pleasantness which would have to be revealed, whereas the pleasantness seems to be an integral part of the idea.

A. W. CRAWFORD.

NOTICES OF NEW BOOKS.

A Manual of Psychology. By G. F. STOUT. London, W. B. Clive; New York, Hinds & Noble, 1899.—pp. xvi, 643.

Dr. Stout's *Manual of Psychology* commends itself as a text-book, or as a book for supplementary reading, for several reasons which distinguish it from the greater number of "Introductions" now in the hands of teachers. In the first place, it will perhaps require less supplementing on the part of the teacher than any of the manuals in general use. To teach James's work satisfactorily requires the skill and ability of its author. Other well-known books represent distinct schools with definite points of emphasis, which require of the instructor that he commit himself more or less to the path marked out if he would avoid the infelicitous lack of coördination, which a clever pupil will feel even if he cannot express. The excellence of Dr. Stout's book is largely due to the genetic and descriptive standpoint which he has with admirable consistency maintained. Whatever may be said of the ultimate scientific fate of the 'Doctrine of Elements,' it is certainly difficult to carry it pedagogically into the explanation of the higher and more complex mental processes.

This difficulty the author has forestalled by calling the attention rather to fundamental "modes of being conscious," and then tracing these modes through the levels of advancing development. Already in the second chapter the student is made familiar with the fundamental laws which are to be found throughout the mental life.

This discussion of the "Primary Laws of Mental Processes" is in itself enlightening, and, coming as it does at the very beginning, is pedagogically of great value. The student is made familiar from the first with the great principles of the relativity of all mental phenomena: the general unity and continuity of consciousness; retentiveness in general, and retentiveness as it is conditioned by conative continuity or interest; association and reproduction; acquirement of meaning, complication, free reproduction, facilitation and arrest, and their psychical conditions; habit and automatism, etc. These processes the reader then sees as they function throughout the ascending steps of mental life.

Dr. Stout believes that the pupil must live himself into psychological problems, and the psychological manner of thinking, and he fully realizes that, for this purpose, the higher and more interesting functions of consciousness cannot be put aside until "a more convenient season." The ideal and conceptual constructions of consciousness—those that underlie both the physical and mental sciences—occupy, accordingly, almost half of a book of over six hundred pages; and admirably conceived and written this portion of the book certainly is.

Psychology, as Dr. Stout presents it, can in no wise be charged with inconsistency in that, while asserting itself to be the science of mental processes, it neglects those processes which are most significantly mental. Since it is this feature of the book that commends itself especially—the chapters on the technical and experimental aspects of sensation and time and space perception, though clearly written and carefully arranged, might have been written by others—attention may be called to one of the best illustrations of Mr. Stout's analytic and systematic treatment. Having been made familiar in an earlier chapter with the fundamental modes of conscious "awareness" (conation, feeling, and cognition) the student is prepared for the chapters on "special precepts," "the categories of the perceptual consciousness," external reality, space, time, causality, "thinghood."

These purely perceptual categories, in the lower stage of their development, have largely biological meaning, and are explained mainly from this point of view, in so far as the study is more than analytic and descriptive, and the author brings to his analysis and explanation a wealth of facts from animal psychology. The transition is then made in later chapters to a further study of these categories as they are ideally reconstructed under the stress of the apperceptive necessity of "relieving the precepts of incoherence, contradiction and ambiguity."

This ideal reconstruction gives us the mathematical concepts of space, the scientific concepts of time, causality, atom and molecule. This portion of the book is further enriched by a chapter on the ideal construction of the self, in which the genetic, sociological, and pathological aspects of the self all furnish their quota of material for description.

Indeed, it is this comprehensiveness of aim and breadth of treatment, never falling into sketchiness, a mistake Dr. Stout consciously avoids, which distinguishes the book. The chapters on the growth of language, and the development of beliefs are not only rich in ethnological material, but are likewise good examples of critical method in the application of such material to the problems of psychology. Room is likewise found for a short chapter on imitation (we are glad to see that the author speaks of imitative impulse rather than instinct), and its place in the development of the perceptual consciousness. It is to be regretted that a place was not found for utilizing the recent literature on the play impulse, a notable gap in a scheme otherwise almost complete.

To be sure Mr. Stout's book has the faults of its virtues. Having defined psychology as "the science of the processes whereby an individual becomes aware of a world of objects, and adjusts his actions accordingly," he is, of course, primarily interested in the description of these various modes of 'awareness,' and their motor consequences in adjustment, and in the various stages of development through which these modes of 'awareness,' cognitive, conative, and emotive, pass. This is his genetic point of view. It is to be expected, then, that he should scarcely do more

than draw the most obvious conclusions from the mass of experimental data now before the psychological world, and that much of experimental detail must be added to the course by the instructor. But it is always easier to fill in details than to attempt to round out an inconsistent or incomplete book. Yet, if one should be critical at all, he would be compelled to own that a special chapter on Attention is to be desired. Such a chapter, it would seem, could easily have been made consistent with Mr. Stout's point of view, while as it is, the student, who from other sources hears much of 'doctrines' of 'attention,' and of the modification of mental content by 'attention,' must content himself here with a few scattered passages and with an absence of all reference to the experimental work on attention. Of course the more advanced student is cognizant of Mr. Stout's point of view, but we cannot help feeling that a special chapter on Attention could have been consistently inserted without conceding too much to the 'functional' point of view, and would have been a direct pedagogical gain.

But, in the light of the many admirable qualities of the book, this is of minor importance, especially in view of the distinct advance which it marks in the method of bringing the subject in its totality before the beginner. And we venture to predict that in those quarters where the aim of an introductory course in psychology is still the development of psychological insight, and preparation for the other mental sciences, in those quarters, namely, where a text-book is likely to be used, Mr. Stout's *Manual* will meet with a cordial reception.

WILBUR M. URBAN.

Sextus Empiricus and Greek Scepticism. A Thesis Accepted for the Degree of Doctor of Philosophy in the University of Bern, Switzerland. By MARY MILLS PATRICK, President of the American College, Constantinople, Turkey. Cambridge, Deighton, Bell & Co.; London, George Bell & Sons, 1899.—pp. vii, 163.

This volume is an excursion into a field of research which lies somewhat remote from the beaten path of philosophical study, but which is by no means lacking in interest and value. For Pyrrhonism presents the most thorough-going system of agnosticism which has ever been developed. It is the philosophy of those who thought with one of Mrs. Humphrey Ward's characters that "to dogmatize about any subject under heaven . . . was the act of an idiot." The consistency of such a system was of course limited by the possibilities of language. But the leading Pyrrhonists like Sextus, fully aware that any general statement of scepticism is always in danger of committing suicide, strove by every conceivable means to guard against this catastrophe. The interest in the writings of Sextus Empiricus is enhanced by the fact that in them are found practically all the arguments which have been employed, in modern as well as in ancient times, by the supporters of a doctrine of philosophical nescience.

The work of Dr. Patrick falls into two parts, the first giving a series of brief introductory essays, historical and critical, the second an English translation of the first book of the *Pyrrhonic Hypotyposes*.

The vexed questions regarding the professional affiliations of Sextus, the period of his activity, and the seat of the school of which he was the head, are clearly treated in the light of the sources and the discussions by Zeller, Pappenheim, Haas, Brochard, and others who have written on the history of Pyrrhonism. The conclusions reached are, in fine, that Sextus, who was unquestionably a physician, is not necessarily to be regarded as belonging to the Empirical School of medicine throughout his life, but may be supposed to have found the Methodical School more in harmony with his views; that his date is to be fixed late in the second century, so that his *floruit* was reached after Galen (who died about 200 A. D.) had finished his writings, which contain no reference to Sextus; and that, while the connection of Pyrrhonism with Alexandria was close, Rome is to be accepted as the seat of the Pyrrhonic School for at least a part of the time that Sextus was at its head. In view of the many *lacunæ* in our knowledge of the history of Pyrrhonism, these conclusions must, I think, be regarded as somewhat problematical.

"The Position and Aim of Pyrrhonism," "The Sceptical Tropes," "Ænesidemus and the Philosophy of Heracleitus" and "A Critical Examination of Pyrrhonism" constitute the remaining topics of the first part. The critical portion would have been improved by bringing it more fully into relation with modern thought. Of especial interest would have been a discussion of the way in which many of the weapons of this ancient scepticism have been wrested from it by the progress of positive science. Pyrrhonism was a scientific as well as a philosophical scepticism. The advance of science has wrought against it in at least three ways. In the first place, the ancient sceptics, with the almost boundless credulity common to antiquity, appealed to many supposed facts which were absolutely baseless, never thinking, apparently, of putting the matter to the test of experiment. Again, many of the anomalies which they employ in support of their position have been shown to be not anomalies at all, but strictly regular and explicable phenomena. And, finally, the achievements of science in building up a vast body of trustworthy and useable knowledge of nature, are an effective answer to this scepticism on its scientific side.

In selecting the first book of the *Hypotyposes* for translation, the author has fastened upon the most significant portion of the writings of Sextus for the purposes of the general student. An English translation has long been a *desideratum*. Unfortunately, this portion of Dr. Patrick's work is the one which seems least successfully executed. At numerous points there is evidence of haste and a lack of care in the revision of the work. "Outlines of the Pyrrhonic Philosophy" would have served better than "Pyrrhonic Sketches" as a translation of the title. But Dr. Patrick may be forgiven any little infelicity in this respect in view of the inexplicable blunder of an

English writer, Mr. Norman Maccoll, who in *The Greek Sceptics* renders it "*Hypotheses*," for which there is absolutely no warrant. Some of the Greek terms appear without translation. In the case of the oft-recurring ἐποχή the Greek word is sometimes given, and it is sometimes translated. There is apparently no principle governing the usage in respect to this word. In the case of this and other technical terms the Greek might have been given in brackets or in a glossary. To translate ἀδοξάστως "in an unprejudiced way" (23) is to miss the full meaning of the word in the Greek of the period. The English of the famous story of Apelles (28) is defective. It seems fanciful to render κατασκευάζοντα by "builds a tower of reasoning" (32). "Control of the humors" (80) should rather be "prevalence of the humors," as τῶν χυμῶν is certainly to be regarded as a subjective genitive. One would prefer "a party to the controversy" to "a part of the disagreement" (90, 98). "An ordinary good man" (157) hardly reproduces μετρίως προῃρημένος. οὐ μᾶλλον τόδε ἢ τόδε is rendered "no more than this" (188) instead of "no more this than that." "Would assent" (191) is hardly adequate for χρὴ συγκατατίθεσθαι. These and other similar blemishes will doubtless be remedied in a second edition. It is only fair to Dr. Patrick to consider the conditions under which her work was done, and the absence of English-speaking critics. But, even as it stands the translation is to be welcomed, and should prove of service to a large number of students, who by a few hours of reading can gain an insight not otherwise obtainable into the spirit and methods of Greek scepticism.

WALTER GOODNOW EVERETT.

BROWN UNIVERSITY.

The Philosophy of Greece Considered in Relation to the Character and History of its People. By ALFRED WILLIAM BENN. London, Grant Richards, 1898.—pp. x, 308.

"The object of this book is to show how Greek philosophy exhibits, under an abstract form, certain ways of acting and looking at things which characterized the Greek genius before philosophy itself began; how, having come into existence, its evolution was determined by the history and geography of Greece; and how, at every stage of that evolution, it was influenced by he political, religious, and scientific culture of the Greek people; in a word, to consider philosophy—by which I understand a study of the most general relations between the world and human life—as a product, not only of certain preëminent intellects, but also, and above all, as a product of the nation whence they sprang."

In such terms does Mr. Benn state the object of his book, acknowledging that the idea and the suggestion of the work were due to Professor Knight of St. Andrews. It requires no special insight to perceive that we are dealing with an attempt to set forth the philosophy of the history of philosophy. The task is worthy of the best effort a philosopher and a scholar may command. As the work makes a show of completeness, it cannot be regarded

as a mere collection of essays. Hence we should naturally assume, on beginning the book, that the author would first of all make plain the precise relation in which he conceives philosophy as standing toward the concrete life of the nation or the individual. It is not enough to say that "Greek philosophy exhibits, under an abstract form, certain ways of acting and looking at things which characterized the Greek genius before philosophy itself began." We naturally inquire whether philosophy exhibits these ways of acting and looking at things merely by chance, or in virtue of some principle, and if in virtue of a principle, just what it is. To illustrate, on p. 222 Mr. Benn says: "A people so ingenious could not but sometimes divine the underlying causes and laws of phenomena; and this will be especially obvious if we consider that they generalized from their knowledge of political societies, which was immense, and that the laws of politics are, in the last analysis, laws of nature." Here are raised two of the profoundest problems of philosophy: first, on what supposition can we intelligibly account for the possibility of a divinatory anticipation of the laws of nature; and, second, why so distinctly a volitive institution as political society should exhibit in its laws any analogy to those of 'external' nature. Neither of these questions is touched upon.

Earlier in the work (p. 20), Mr. Benn says: "We have seen how, at an early period, Themis was worshipped as the mother of the Seasons. This means that Greek thought spontaneously recognized a fixed order in the succession no less than in the coexistence of physical phenomena, assimilating it also to the moral order of human society." Here we come very near to the recognition of the important insight that natural law is the reflex of moral postulates; but, of course, we do not quite reach it. In like manner we just miss a very interesting interpretation of the *Nous* of Anaxagoras (pp. 110–111), for no other reason, apparently, but that the author has himself no philosophy by which to interpret the earlier thinkers.

I am aware that it is a dangerous procedure to approach an historical subject with a philosophy of history already evolved, but it is certainly more hazardous still to attempt what is in its nature a philosophical task without a theory to rest on. And it is precisely this circumstance that renders Mr. Benn's book so unsatisfactory. Amid a wealth of stimulating suggestions, for which every student of Greek philosophy must be profoundly thankful to the author, there is also very much that is altogether too fantastic, and here and there one will chance upon something that even seems grotesque. Such, for example, is the statement (p. 192) that Plato "wanted to discredit Induction, for which he had an aristocratic dislike." Equally incredible is the explanation offered (p. 176) of what Socrates meant by proclaiming that he knew nothing, although reputed to be the wisest man in Greece. A good illustration of the author's inclination to be fantastic is his use of the clouds as mediators between the solid firmament and the solid earth (pp. 49, 50). In this connection he gives a very superficial answer to the question, above raised, as to the reason for the possibility of a divinatory anticipation of the laws of nature.

An explanation of such a phenomenon requires more than a passing reference to the poetic faculty, which needs as much elucidation as the point in question. The only means of escape from the imminent danger of being fantastic or grotesque is to be profoundly philosophical, which is not possible without coming to a clear apprehension and solution of such problems as were noted above.

Mr. Benn frequently adverts to the fact that moral ideals and convictions exercise a determining influence even over physical speculations. The truth is important and profound, although our author has not always been fortunate in his attempts at correlation, for reasons already intimated. But one should have expected that in an interpretation of post-Aristotelian thought, where morals and moral ideals reign supreme, the operation of this principle would have been most luminously revealed. How great is our surprise, therefore, to find the old opinion regarding Stoicism still retained and to read about "the comprehensive eclecticism of the Stoics" (p. 117).

Valuable as any candid reader must confess Mr. Benn's book to be, we are compelled to declare that the philosophical history of Greek philosophy, supposing it to be a possibility, is still only an ideal the realization of which is not yet.

W. A. HEIDEL.

GRINNELL COLLEGE.

Dionysos and Immortality: The Greek Faith in Immortality as Affected by the Rise of Individualism. By BENJAMIN IDE WHEELER, President of the University of California, and Ingersoll Lecturer for 1898–1899. Boston and New York, Houghton, Mifflin & Co., 1899.—pp. 67.

The broad range of topics touched upon in this lecture, ranging from the question of Indo-European origins of religion to the religious character of Plato's thought, increases its interest for the student, while at the same time it makes it perhaps more difficult for the ordinary reader to grasp the main thread of the argument. The student of Greek thought and the student of the history of religion will find in it much that is stimulating, and will be very grateful to Dr. Wheeler for giving not only the Greek doctrine of immortality, but also the outline of that religious belief in which this doctrine had its proper setting. In general the account of the earlier Greek view of the future life follows the lines worked out by Rohde (*Psyche*, 2d ed., Freiburg, 1898); but we are struck by the acute remark that Rohde's explanation of the rise of the practice of cremation, as it appears in the Homeric poems, lacks breadth of view. Why do some peoples burn their dead, President Wheeler asks, and others bury them? Certainly fire removes the soul from contact with the living, and it sets it at rest as does burial. It would be an interesting question to determine whether cremation were not connected with the belief in some distant general abode of the dead, perhaps originally an abode with gods of light and fire, while the soul of the buried man had at least one point of contact with the actual life of his descendants; so far as the Greeks of the epic are concerned, we

must assume that the practice was borrowed by them, or by the poets who told of them, from some neighboring people. It is quite inconceivable that it should have been invented *de novo* to meet a particular need.

The main purpose of the book is to trace the rise of individualism during the period 750–600 B. C. in its influence on religious life and belief. With the development of social and political individualism men came to desire individual immortality. From time immemorial certain cults among the common people had fostered the belief in a kinship between the human spirit and certain spirits of nature. The belief in a real kinship of man and god, and the practice of a real communion between the human spirit and a divine spirit in the life of nature—it was this for which the religion of Dionysos stood, and it was this belief and practice by which the Dionysos religion satisfied the new needs of the Greek people. Other students may differ from Dr. Wheeler as to the meaning of *Iakchos* in Eleusinian worship, as to the purely religious nature of Plato's thought, and, of course, as to the connection of the Greek gods with ancestor worship, but the central thought of the lecture can hardly be questioned by any earnest student of Greek life.

As to the question of ancestor worship, one who agrees in the main with President Wheeler's position might raise the question whether "the great gods, the 'nature gods,' carried up with them *from their origin* the semblances of ancestor gods," or whether they acquired this character from their position in the public worship of the Greek state. That they had this character cannot be questioned.

ARTHUR FAIRBANKS.

L'éducation rationelle de la volonté. Son emploi thérapeutic. PAUL-ÉMILE LEVY. Préface de M. le BERNHEIM. Paris, Alcan, 1898.—pp. v, 234.

This book has two parts, "a theoretical study" and its "practical applications," in which an exposition of psycho-therapeutics is undertaken. That is, the author attempts "the rational (*sic*) application of the laws of thought to therapeutics." How misleading the chief title is, may be seen from the titles of the chapters: I. The necessity of a psychological medicine; II. The fundamental law of all psycho-therapeutics: every idea is an act in a nascent state; III. Auto-suggestion; IV. The means of reenforcing auto-suggestion by concentration; V. Psychical gymnastics; VI. Hetero-suggestion; VII. Moral hygiene; VIII. The will; medical, philosophical, and moral conclusions. It is well that the work does not claim to be a technical treatment of the subject; the practical values are in mind from the start.

Psycho-therapeutics is here limited to a study of 'suggestion,' and disclaims identification with the extravagances of experimental hypnotism. The explanation of the practical results obtained is found in a slavish acceptance of Bernheim's formulation that "every idea, accepted by the brain,

tends to perform an act." The transformation of ideas into action is a two-fold process: positively, through dynamogenesis, negatively, through neutralization or inhibition. Later, this process becomes attention, "concentration," which is the mental state that "isolates itself from all things, all sensations, all thoughts, in order to retire within a corner of itself, and calmly, without tension, effort, or fatigue, vivifies and multiplies some ideas, already chosen, by the contemplative attention which it gives them" (p. 55). The evidence for all this is gained by compilation.

'Suggestion,' as here applied, is that education of the will which should act upon the ills of the body, as well as upon those of the mind. (The method of suggestion is that of temporarily lying to one's self for the sake of the cure.) The process is characterized by reference to its sources as "hetero-suggestion" and "auto-suggestion." The content of the latter is derived from the former; but the former does not act upon the individual except through the intermediation of the latter. This sort of mechanism is supposed to be the true and only education of the will. The solidarity of the race is the final condition of hetero-suggestion; while all reaction of the individual, bodily, intellectual, and moral, conditioned by repetition and organizing habits, is the sum and substance of auto-suggestion. ('Organic lesions' do not submit to treatment by suggestion.) Aboulia, the disease of the age, can be cured on this basis only. "To will is to make ourselves fully conscious of the elements of the conflict going on in us" (p. 126).

The practical applications (pp. 145 ff.) are the results by observations of the author made upon himself, and those obtained by six persons, aged from twenty-five to thirty years, aggregating some fifty-nine instances. The great variety of cures are those in cases of smoking, insomnia, giddiness, fatigue, paresis in one arm, sudden exhaustion of the limbs, writer's cramp, headaches, neuralgia in the face, toothache, troubles of circulation and respiration, chronic sneezing and coughing, loss of appetite, indigestion, colic, constipation, and sexual disorders. The cases of cure were effected within four months after the conception of the book, and do not represent all reported; nor is any further account, than omission, taken of the two persons who failed in securing any results.

EDWARD FRANKLIN BUCHNER.

SCHOOL OF PEDAGOGY, NEW YORK UNIVERSITY.

The Psychological Review: Monograph Supplements. Number 9: *The Emotion of Joy.* By GEORGE VAN NESS DEARBORN. New York, The Macmillan Co., 1899.—pp. 70.

This monograph sets out from the Lange-James theory, which has evidently proved a fascination to the author. Emotion, it is thought, is best conceived biologically; its two aspects—mental and physical—being considered together. The physical side (called the 'extramotion') is found to be typical for each kind of emotion, except in so far as social restraints have modified it. Some of the best work of the article consists in point-

ing out these restraints and the emotions which they affect. The expressive side of the emotion is more adequately treated than the introspective analysis. The experimental part of the monograph consists (1) in cultivating (perhaps too often imagining) emotions and their effects on the organism, and (2) in recording various voluntary and involuntary movements (head, hands, limbs, circulation, and respiration) following upon affective stimulation—odors, sounds, and colors. The results of the first set are largely objective: they deal only secondarily with the emotive consciousness. Those of the second investigate the bodily correlates or concomitants of pleasantness and unpleasantness—simple affection, which Dr. Dearborn assumes to be only an accidental aspect of emotion (p. 21)—rather than with emotion itself. It is to be remarked, further, that the difficulties and uncertainties of the 'expressive' methods call for a more detailed account of procedure and results than the author has given. The conclusion is reached that "joy is an extension or expansion of the personality in both its aspects, mental and bodily."

Number 10: *Conduct and the Weather.* By EDWIN GRANT DEXTER. New York, The Macmillan Co., 1899.—pp. 103.

This study is based on extensive meteorological records (temperature, barometric pressure, humidity, wind, cloudiness, and precipitation) on the one hand, and, on the other, various statistics relating to school attendance and deportment, assault and battery, penitentiary discipline, arrests for insanity, deaths, suicides, murders, and clerical errors. By means of various quantitative correlations between the two sets of facts, the author attempts "to throw some light upon the peculiar effects of weather conditions on mental states." The facts are interpreted as follows: (1) the weather affects the metabolic processes (*anabolic*, shown in number of misdemeanors, and *katabolic*, shown in increased death-rate) and the reserve energy of the human organism, and also the emotional state; (2) the reserve energy and the emotions are factors determining conduct. This macroscopic treatment finds its limitations, of course, in the immense complexity of the data, and the frequent uncertainty in the causal sequences. For a study, however, which lends itself so easily to speculation, the author is to be commended for his invariable candor and caution.

Number 11: *On Inhibition.* By B. B. BREESE. New York, The Macmillan Co., 1899.—pp. 65.

Inhibition, the article points out, has a definite significance in physiology, but in psychology its meaning has been ambiguous. The author argues that the only proper use of the term among psychologists is in connection with the "psycho-physical mechanism"; mental processes, as such, do not inhibit each other. Two sets of experiments are made with the view of solving the general problem of psycho-physical inhibition; the first investigates the conditions of retinal rivalry; the second the effect of motor

speech inhibitions upon memory. Both are thought to indicate that the excitation of sensory and motor tracts forms a single process, and that, if the motor end of the process is inhibited, consciousness is altered, inhibited. In the first case there is a rivalry of discharging centres; in the second, a damming of articulatory currents. The interpretation of the memory results is not at all convincing (*Cf.* Lehmann, who is not mentioned); exclusion of the auditory factor has been found to cripple memory in the same way as articulatory suppression. Naturally, two memories are better than one. The experimental results are strained to fit the theory that "the limitations of the motor adjustments become the limitations of thought."

Number 12: *After-Images.* By SHEPHERD IVORY FRANZ. New York, The Macmillan Co., 1899.—pp. 60.

This is a general study of visual after-images. It is broad rather than deep, and can scarcely be said to settle the most important questions connected with the subject. Some good work is done on the influence of time, extent, and intensity of the stimulus upon the 'threshold,' and on the latent period and duration of the image. The "mental attitude" (an uncertain expression!) is found to be an important factor in the duration, quality, and fluctuations of the after-image. An historical part covers most of the literature, but is lacking in perspective. The omission of von Kries's important work (*Zeitschrift f. Ps. u. Phys. d. Sinn.*, IX, pp. 112 ff. and XII, pp. 81 ff.) is to be noted.

I. M. BENTLEY.

Philosophy of History: An Introduction to the Philosophical Study of Politics. By ALFRED H. LLOYD. Ann Arbor, George Wahr, 1899.—pp. iv, 250.

Professor Lloyd has already outlined his conception of history in a volume entitled *Citizenship and Salvation* (1897). The present exposition is at the same time more definite and more comprehensive. About a third of the book is devoted to a philosophic study of the date of history; and this is followed by an analysis of the social unit, the group, and by a systematic account of the formula of history as it appears to the philosopher. The last four chapters are essays in which such topics as "Good and Evil" and "The Great Man" are treated from the historical point of view which is expounded in the main part of the volume. In these chapters, as well as in the second part of the book, acute and valuable comments on different phases of historical development abound. The author's formula of development, however, receives much attention in these chapters, and formulas are illusive guides. That tensions are constantly arising in any social group, only to be modified and in a way satisfied in higher forms of social life, no one would deny. But in applying such a statement to concrete cases there is always a certain degree of arbitrariness present, as is

felt by Professor Lloyd himself. And when the formula of 'oneness with self' 'alienation from self' and 'restoration to self,' is applied to the whole progress of social development on our planet, I cannot but feel that the process is necessarily a very arbitrary one.

The first part of the volume, discussing Time, Causation, the Individual, and Nature, as data of history, seems to me more valuable. Much of the chapter on time is already familiar to readers of the PHILOSOPHICAL REVIEW (Jan., 1899). Time, we are told, is not merely a formal datum of history, external to the course of the facts themselves; for this would isolate events from each other, make them depend on a power external to the series, and thus permit the appearance of fortuitous events unrelated to the rest of the series. Time is rather intrinsic to the series of events; it is one form of unity in the differences of a changing world. The conception of causality is determined by this idea of time. Causation is not "individualistic, temporally sequent, and arbitrarily creative" (p. 38). The effect is rather contemporary with the cause, and materially identical with it (p. 47). Change is the interaction of the different parts of nature in the fulfillment of her organic whole (p. 50); and, because this change is consistent and responsible to the whole, we call it causation (pp. 47, 53). A line is not a series of points, but it is direction. A circle is not a many-sided polygon, but any point in its circumference is arbitrarily chosen in a continuous curve. So nature is continuous; the cause and its effect are really one, but "projecting change in the organic upon the plane of measurable quantity" (p. 35) we isolate one element of the process and call it cause, another and call it effect. Again, the individual is only isolated by a process of abstraction. In fact, each individual is a focus for all of reality, and in calling him an individual we are regarding all of reality from a center which we have arbitrarily chosen. And progress is but the realization of what is potentially present. Being is organic—which means that the present is the fruit of the past and the germ of the future.

With these conceptions of "dynamic idealism" we shall not quarrel, even if our idealism is less bold than Professor Lloyd's. In his manner of statement, however, the reader will find much that is tantalizing, as well as much that is stimulating. And thinkers whose fundamental standpoint is different, will object, I am sure, to the way in which their opinions are dealt with. Certainly they will not admit that their conception of time involves its disintegration into a series of disconnected points, any more than does the conception of time presented in this volume. The other arguments to prove that time is a function of the process of events stand or fall with this one; indeed, much of the discussion of causation rests on the same basis; so that we cannot but regret that Professor Lloyd has rested so much of his argument on a statement that will not be universally accepted by his readers.

ARTHUR FAIRBANKS.

The following books also have been received:

A History of Modern Philosophy. By HARALD HÖFFDING. (Translated from the German edition by B. E. MEYER.) London, Macmillan & Co.; New York, The Macmillan Company, 1900.—Vol. I, pp. xii, 532; Vol. II, pp. ix, 600.

History of Modern Philosophy in France. By L. LÉVY-BRUHL. Chicago, The Open Court Publishing Company, 1899.—pp. x, 500.

Grammar of Science. Second edition. By KARL PEARSON. London, A. & C. Black; New York, Charles Scribner's Sons, 1900.—pp. xii, 548.

Religion and Poetry. By GEORGE SANTAYANA. New York, Chas. Scribner's Sons, 1900.—pp. x, 290.

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Die Principien der Wärmelehre historisch-kritisch entwickelt. Von Dr. E. MACH. Zweite Auflage. Leipzig, J. A. Barth, 1900.—pp. xii, 479.

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Die Theorie des Milieu. Von EUGÉNIE DUTOIT. Bern, C. Sturzenegger, 1899.—pp. 136.

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Il 76° Natalizio di Augusto Conti. Da SAC. LUIGI MANZONI. Zagabria, Antonio Scholz, 1898.—pp. 34.

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NOTES.

Dr. T. L. Bolton, of Clark University, has been appointed Instructor in Psychology in the University of Nebraska.

Professor Charles M. Bakewell, of Bryn Mawr College, has accepted a call to the University of California. Dr. David Irons, Instructor in Philosophy in Cornell University, has been elected to succeed Professor Bakewell as head of the department of Philosophy and Psychology at Bryn Mawr.

The sudden death is announced of Professor St. George Mivart, a well known writer on biological and philosophical subjects.

We take pleasure in publishing the program of the International Congress of Philosophy which is to be held in Paris, August 1–5, 1900. The committee of organization have decided to publish entire all the papers presented at the various meetings of the Congress. This publication will comprise four volumes corresponding to the four sections of the Congress: General Philosophy and Metaphysics; Ethics; Logic and History of the Sciences; History of Philosophy. Volumes I, II, and IV will contain about 480 octavo pages, and Volume III about 700 pages. These volumes will be sold on subscription until December 1st for 40 francs, payable in advance, or for 44 francs in four equal payments to be made in May 1900, October 1900, February 1901, and June 1901. Subscriptions should be addressed to M. Xavier Léon, the editor of the *Revue de Métaphysique et de Morale* and Secretary of the International Congress of Philosophy, 5 rue de Mézières, Paris.

The papers which will constitute these volumes are as follows:

Volume I.—General Philosophy and Metaphysics. MM. Bergson, maître de conférences à l'École Normale Supérieure, La causalité; Bonnier (Dr.), Rapport de l'intuition spatiale avec les représentations intellectuelles; Brunschvicg, docteur ès lettres, professeur au lycée de Rouen, L'Idéalisme contemporain; Cantoni, professeur à l'Université de Pavie, directeur de la *Rivista di Filosofia*, L'enseignement philosophique dans les lycées et dans les Universités; Carus, directeur du *Monist*, L'unité et l'identité du Moi; Chartier, professeur au lycée de Lorient, L'éducation du Moi; Chiappelli, professeur à l'Université de Naples, La fonction présente de la philosophie critique; Dauriac, docteur ès lettres, professeur au lycée Janson-de-Sailly, D'un système des catégories; Dimier, professeur au lycée de Valenciennes, Prolégomènes à l'esthétique; Durand de Gros (Dr.), Les problèmes philosophiques de l'hypnotisme et les expériences de psychologie extra-normale; Halévy (Elie), agrégé de l'Université, professeur à l'École des Sciences politiques, De la méthode intellectualiste

en psychologie; Shadworth Hodgson, Les notions de cause et de condition réelle; Ivanovski, professeur à l'Université de Moscou, Possibilité d'une terminologie commune pour tous les philosophes; Lalande, docteur ès lettres, professeur au lycée Michelet; Lapie, maître de conférences à l'Université de Rennes, Rationalisme et fidéisme, la part de la volonté dans le jugement; Natrop, professeur à l'Université de Marburg, directeur de l'*Archiv fur systematische Philosophie*, Rapport des intuitions spatiales et temporelles avec les représentations intellectuelles; Aloys Riehl, professeur à l'Université de Halle, Rapport de la psychologie avec la théorie de la connaissance; Tchitchérine, professeur à l'Université de Moscou, La Métaphysique est-elle une science? Tönnies, professeur à l'Université de Kiel, Sur la synthèse créatrice; Weber (L.), professeur au collège des Sciences sociales, De l'idée d'évolution dans ses rapports avec le problème de la certitude.

Volume II.—Ethics.—Adler (F.), président de la Society for Ethical Culture, New York, Le mouvement des sociétés éthiques en Amérique; Andler, maître de conférences de l'École Normale Supérieure, Morale et Politique; Baldwin, professeur à l'Université de Princeton à New Jersey, Le concept de valeur en morale et en économique; Blondel, professeur de philosophie à l'Université d'Aix; Principe élémentaire d'une logique de la vie morale; Bouglé, maître de conférences à l'Université de Montpellier, Dans quelle mesure la question sociale est-elle une question morale? Bois, professeur à l'Ecole de théologie protestante de Montauban, L'éducation morale peut-elle suffire pour la masse du peuple sans le secours des croyances religieuses? Buisson, professeur de Science de l'Éducation à la Sorbonne, La sanction morale. Est-elle possible? Est-elle nécessaire? Darlu, professeur aux Écoles normales de Sèvres et de Fontenay, Une doctrine morale peut-elle être constituée en dehors de toute métaphysique? Durkheim, professeur à l'Université de Bordeaux, Patriotisme et cosmopolitisme; Fontaine, ingénieur en chef des Mines, directeur du Travail au Ministère du commerce, Les conditions de la responsabilité; Förster, secrétaire de la ligue Ethique, Rapport sur les idées et les expériences du mouvement éthique international dans le domaine de l'instruction morale; Groppali, professeur à l'Université de Ferrare, Sociologie philosophique et sociologie scientifique; Jaurès, ancien député, ancien professeur à l'Université de Toulouse, L'Internationalisme; Kirkman, membre des sociétés éthiques, Utilité de l'histoire pour l'Enseignement d'une morale civique; Parodi (D.), professeur suppléant au lycée Lakanal, L'idée de progrès; Rauh, professeur à l'Université de Toulouse, La forme moderne de l'idée de justice; Remacle, professeur à l'Athénée royal de Hasselt, Rapport de la morale chrétienne avec la conscience contemporaine; Ruyssen, professeur au lycée de la Rochelle, directeur de *la Paix pour le Droit*, La guerre et la paix; Séailles, professeur de philosophie à la Sorbonne, Le mouvement éthique en France (Union pour l'action morale, Universités populaires); Seignobos, professeur à la Sorbonne, L'Idée de civilisation; Simmel P. D., à l'Université de

Berlin, Théorie de la connaissance religieuse ; Sorley, professeur à l'Université d'Aberdeen, Morale et Politique ; Stein (Ludwig), professeur à l'Université de Berne, directeur de l'*Archiv fur Geschichte der Philosophie*, Les fins de la civilisation.

Volume III.—Logic and History of the Sciences.—Blondlot, professeur à l'Université de Nancy, Sur les principes de la Mécanique ; Bouasse, professeur à l'Université de Toulouse, Du rôle des principes qualitatifs et en particulier du principe de modération en Physique ; Cantor (Georg), professeur à l'Université de Halle, Les nombres cardinaux transfinis dans la théorie des ensembles ; Giard (H.), professeur à la Sorbonne (?), Sur le néo-lamarckisme ; Hæckel (Ernst), professeur à l'Université d'Iéna, Principes de la philosophie zoologique ; Houssay, maître de conférences â l'Ecole Normale Supérieure, Les théories atomiques en Biologie ; Husserl, professeur à l'Université de Halle, Logique formelle et Mathématique formelle ; Johnson, de l'Université de Cambridge, Principes et développement du calcul logique ; Lechalas (Georges), ingénieur en chef des Ponts et Chaussées, De l'identité des plans de Riemann et des sphères d'Euclide ; Le Dantec, professeur à la Sorbonne, Le problème de l'origine de la vie ; Le Roy (E.), docteur ès sciences, De la nature véritable des vérités scientifiques ; Mac Coll (Hugh), Logique symbolique et probabilités ; Mac Farlane, professeur à l'Université de Pennsylvania à Philadelphie, Idées et principes fondamentaux du calcul géométrique ; Padoa, La théorie des nombres entiers algébriques considérée au point de vue déductif ; Painlevé (P.), maître de conférences à l'École Normale Supérieure, Origines empiriques des sciences dites rationnelles ; Peano (G.), professeur à l'Université de Turin, directeur de la *Revue de Mathématiques*, Les définitions mathématiques ; Pieri (Mario), La géométrie envisagée comme un système purement logique ; Poincaré (H.), membre de l'Institut, professeur d'astronomie mathématique et de mécanique céleste à la Sorbonne, Sur les principes de la Mécanique ; Poretsky (P.), Expose élémentaire de la theorie des égalités logiques à trois termes a, b et c ; Raveau, préparateur à la Sorbonne, Les définitions en Physique ; Russell (B.), fellow of Trinity College, Cambridge, L'idée d'ordre et la position absolue ; Schiller (Corpus Christi College, Oxford), Les axiomes comme postulats ; Schiller (de Kiev), Sur les notions fondamentales de la Mécanique ; Schröder (Ernst), professeur à l'Ecole technique supérieure de Karlsruhe (?), Sur une extension de l'idée d'ordre ; Y a-t-il des ponts de ramification en Logique ? De Tilly (général), directeur de l'Ecole militaire de Bruxelles (?), Sur divers points de la philosophie des sciences mathématiques ; Vassilief, président de la Société physico-mathématique, professeur à l'Université de Kazan, Sur les principes de la théorie des probabilités ; Wald, chef chimiste de l'usine métallurgique à lKadno, Etude sur la loi des masses de Richter-Dalton ; Cantor (Moriz), professeur à l'Université de Heidelberg, Les origines du calcul infinitésimal ; Génther, professeur à l'Université de Munich, Histoire de la découverte de la gravi-

tation newtonienne et de son influence sur le développement de la Mécanique et de la Physique ; Milhaud (G.), professeur à l'Université de Montpellier, Les origines du calcul infinitésimal ; Vailati, professeur au lycée de Syracuse, Histoire de la classification des sciences et ses rapports avec le développement de la division du travail intellectuel dans la recherche scientifique et dans l'enseignement.

Volume IV.—History of Philosophy. Belot (G.), membre du Conseil supérieur de l'Instruction publique, professeur de philosophie au lycée Louis-le-Grand, L'Idée et la méthode de la philosophie chez A. Comte ; Bergson, maître de conférences à l'Ecole Normale Supérieure, La theorie de la conscience dans Plotin ; Berthelot (R.), professeur à l'Université libre de Bruxelles, Les directions principales de la philosophie contemporaine ; Boutroux, professeur d'histoire de la philosophie moderne de la Sorbonne, L'objet et la méthode dans l'histoire de la philosophie ; Brochard, professeur d'histoire de la philosophie ancienne à la Sorbonne, Socrate et les sophistes ; R. P. Bulliot et Picavet, maître de conférences à l'Ecole des hautes études, Valeur de la scolastique ; Couturat, docteur ès lettres professeur de Faculté en congé, L'évolution historique des idées de Platon ; Delacroix, docteur ès lettres, professeur de philosophie au lycée de Pau, Rôle de la philosophie de Hume dans le développement de la pensée moderne ; Delbos, professeur de philosophie au lycée Henri IV, La critique kantienne et la Psychologie ; Delvolvé, agrégé de l'Université, La morale de Bayle ; Deussen, professeur à l'Université de Kiel, Principes de la philosophie indienne ; Gourd (J. J.), professeur de philosophie à l'Université de Genève, Le progrès dans l'histoire de la philosophie ; Lessevitch, Le Positivisme et l'Empirio-criticisme comparés ; Léon (Xavier), directeur de la *Revue de Métaphysique et de Morale*, La morale de Fichte ; Lyon (G.), maître de conférences à l'École Normale Supérieure, La logique inductive dans l'école épicurienne ; Ritchie, professeur à l'Université de St-Andrews, Sur la relation du Parménide de Platon avec la critique de la théorie des Idées dans la *Métaphysique* d'Aristote ; Tannery (P.), directeur des manufactures de l'État, Les principes de la nature chez Aristote ; Thamin, docteur ès lettres, professeur de philosophie au lycée Condorcet, L'influence de la morale stoïcienne, en France, au commencement du xvii^e^ siècle ; Vaihinger, professeur à l'Université de Halle, directeur des *Kantstudien*, La philosophie de Nietzsche ; Woden, L'Hégélianisme dans la philosophie actuelle.

We give below a list of the articles, etc., in the current philosophical journals :

THE MONIST, X, 3 : *H. Gunkel*, The Two Accounts of Hagar ; *The Editor*, The Food of Life and the Sacrament ; *Major J. W. Powell*, Dualism Modernized ; *A. H. Lloyd*, Evolution and Immortality ; *C. Lloyd Morgan*, The Conditions of Human Progress ; *C. H. Cornill*, the New

Bible and the Old; Correspondence, Criticisms and Discussions, Book Reviews.

PSYCHOLOGICAL REVIEW, VII, 2: *J. Dewey*, Psychology and Social Practice; Proceedings of The Eighth Annual Meeting of the American Psychological Association, December, 1899; *G. S. Fullerton*, The Criterion of Sensation; *A. H. Lloyd*, Physical Psychology; Psychological Literature, New Books, Notes.

INTERNATIONAL JOURNAL OF ETHICS, X, 3: *R. T. Ely*, The Nature and Significance of Monopolies and Trusts; *H. H. Powers*, The Ethics of Expansion; *H. Welsh*, The Ethics of Our Philippine Policy; *B. Bosanquet*, "Ladies and Gentlemen"; *Mrs. A. Bain*, Aims and Illustrations in Practical Ethics; *A. E. Taylor*, The Metaphysical Problem with Special Reference to its Bearing upon Ethics; *S. H. Mellone*, James Martineau as an Ethical Teacher. Discussions: *D. G. Ritchie*, The Rights of Animals; *H. S. Salt*, A Reply to Professor Ritchie; *R. MacIntosh*, A Personal Explanation. Reviews of Robertson's *Short History of Freethought*, Bosanquet's *Philosophical Theory of The State*, Windelband's *The Philosophy of Greece*, Fiske's *Through Nature to God*, and other recent books.

ZEITSCHRIFT FÜR PSYCHOLOGIE UND PHYSIOLOGIE DER SINNESORGANE, XXII, 5: *Lottie Steffens*, Experimentelle Beiträge zur Lehre vom ökonomischen Lernen; *Theodor Lipps*, zu den "Gestaltqualitäten"; *M. Sachs*, Ueber den Einfluss farbiger Lichter auf die Weite der Pupille; Reviews of Current Literature, etc.

VIERTELJAHRSSCHRIFT FÜR WISSENSCHAFTLICHE PHILOSOPHIE, XXIV, 1: *Jonas Cohn*, Münsterberg's Versuch einer erkenntnistheoretischen Begründung der Psychologie; *Eugen Posch*, Ausgangspunkte zu einer Theorie der Zeitvorstellung; *C. Siegel*, Ueber einige Entdeckungen der Naturwissenschaft in ihrer erkenntnistheoretischen Wirkung; *Paul Barth*, Fragen der Geschichtswissenschaft: (II.) Unrecht und Recht der "organischen" Gesellschaftstheorie; *A. Riehl*, Zum 17. Februar; Reviews of Häckel's *Die Welträtsel*, Jerusalem's *Einleitung in die Philosophie*, and other recent books; Notices, Philosophical Journals, Bibliography.

ARCHIV FÜR SYSTEMATISCHE PHILOSOPHIE, VI, 1: *Adolf Müller*, Die Metaphysik Teichmüllers; *Ludwig Goldschmidt*, Kants "Widerlegung des Idealismus" (II); *Emil Bullaty*, Das Bewusstseinsproblem; *Hans Kleinpeter*, Erwiderung; *Paul Natorp*, Bericht über deutsche Schriften zur Erkenntnistheorie aus den Jahren 1896–98; Recent Publications, Philosophical Journals, Notes.

ZEITSCHRIFT FÜR PHILOSOPHIE UND PHILOSOPHISCHE KRITIK, CXV, 2: *E König*, Die Lehre vom psychophysischen Parallelismus und ihre Gegner; *Paul Stern*, Die Theorie der ästhetischen Anschauung und die Association; *Johannes Volkelt*, Nachtrag zur "Psychologie der ästhetischen Beseelung," veranlasst durch Paul Sterns voranstehenden Aufsatz;

Georg Siebert-Corben, Das Verhältnis des hypothetischen Urteils zum kategorischen näher untersucht im Zweckurteil ; *F. Tönnies*, Zur Einleitung in die Soziologie ; Reviews, Notes, Recent Publications, Philosophical Journals.

REVUE PHILOSOPHIQUE, XXV, 3: *A Lalande*, Progrès et destruction ; *E. Tardieu*, L'ennui : étude psychologique ; *L. Winiarski*, L'énergie sociale et ses mensurations ; *G. Belot*, La religion comme principe sociologique ; *Daubresse*, L'audition colorée ; Reviews, Philosophical Journals.

REVUE NÉO-SCOLASTIQUE, VII, 1: *D. Mercier*, Le bilan philosophique du XIX^e^ siècle ; *Clodius Piat*, La substance d'après Leibniz : *G. Legrand*, Deux précurseurs de l'idée socialé catholique en France : De Maistre et de Bonald : *H. Lebrun*, La reproduction ; *A. Walgrave*, Kant et saint Thomas ; *G. De Craene* et *D. M.*, Le commencement du siécle ; *D. Mercier*, La traduction française de la terminologie scolastique ; M. De Wulf, Récents travaux sur l'histoire de la philosophie médiévale en Occident ; Philosophical Journals, Bibliography, etc.

REVUE DE MÉTAPHYSIQUE ET DE MORALE, VIII, 2 : *V. Delbos*, Le kantisme et la science de la morale ; *G. Milhaud*, L' œuvre de la raison ; *L. Couturat*, Sur la définition du continu ; *P. Poretsky*, Exposé élémentaire de la théorie des égalités logiques á deux termes a et b ; *Ét. Burnet*, De la méthode dans la psychologie des sentiments par F. Rauh ; *Ch. Dunan*, A propos d'une note sur l'indétermination ; *Éd. Le Roy*, Réponse à M. Couturat ; *A. Leclère*, Le même enseignement moral convient-t-il aux deux sexes ? New Books, Obituaries, Philosophical Journals, etc.